

◆FOCUS◆

# Bright and Beautiful





# THIS BOOK IS THE PROPERTY OF:

STATE \_\_\_\_\_  
 PROVINCE \_\_\_\_\_  
 COUNTY \_\_\_\_\_  
 PARISH \_\_\_\_\_  
 SCHOOL DISTRICT \_\_\_\_\_  
 OTHER \_\_\_\_\_

Book No. \_\_\_\_\_  
 Enter information  
 in spaces  
 to the left as  
 instructed

ISSUED TO	Year Used	CONDITION	
		ISSUED	RETURNED
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

PUPILS to whom this textbook is issued must not write on any page or mark any part of it in any way, consumable textbooks excepted.

1. Teachers should see that the pupil's name is clearly written in ink in the spaces above in every book issued.
2. The following terms should be used in recording the condition of the book: New; Good; Fair; Poor; Bad.











# Bright and Beautiful

---

## PROGRAM AUTHORS

Richard L. Allington  
Ronald L. Cramer  
Patricia M. Cunningham  
G. Yvonne Pérez  
Constance Frazier Robinson  
Robert J. Tierney

---

## PROGRAM CONSULTANTS

Bernadine J. Bolden  
Ann Hall  
Sylvia M. Lee  
Dolores Perez  
Jo Ann Wong

## CRITIC READERS

Vincent C. Becker  
Marilyn Carzoli  
Linda Daniels  
Stanley Goldberg

John C. Manning, *Instructional Consultant*

---

## SCOTT, FORESMAN AND COMPANY

Editorial Offices: Glenview, Illinois

Regional Sales Offices: Palo Alto, California •  
Tucker, Georgia • Glenview, Illinois •  
Oakland, New Jersey • Dallas, Texas



## Acknowledgments

### Text

Page 20: From *Be a Perfect Person in Just Three Days* by Stephen Manes. Copyright © 1982 by Stephen Manes. Reprinted by permission of Clarion Books/Ticknor & Fields, a Houghton Mifflin Company.

Page 30: Text and art "The Acrobats" from *Where the Sidewalk Ends: The Poems and Drawings of Shel Silverstein*. Copyright © 1974 by Shel Silverstein. Reprinted by permission of Harper & Row, Publishers, Inc.

Pages 36, 40: Adapted from *Getting Along with Your Friends* by Phyllis Reynolds Naylor. Copyright 1980 by Abingdon. Used by permission.

Pages 48, 50: Adapted from *Rescue! True Stories of Heroism* by L. B. Taylor, Jr. Copyright © 1978 by L. B. Taylor, Jr. Used by permission of Franklin Watts, Inc.

Page 52: Adapted from "A Matter of Courage" by Margaret Higham in *Child Life*, August/September 1981. Copyright © 1981 by Benjamin Franklin Literary & Medical Society, Inc. Indianapolis, Indiana. Reprinted by permission.

Page 60: "The Lost Treasure of Montezuma" from *The People's Almanac* by David Wallechinsky and Irving Wallace. Copyright © 1975 by David Wallace and Irving Wallace. Reprinted by permission of Doubleday & Company, Inc. and Irving Wallace.

Page 62: Adaptation of "The Treasure Trap" by Don Waters in *The Saturday Evening Post*. Copyright © 1945 by The Curtis Publishing Company. Reprinted by permission.

Page 77: Reprinted by permission of Dodd, Mead & Company, Inc. from *City Horse* by Jack and Patricia Demuth. Copyright © 1979 by Patricia Demuth.

Page 80: "Preserving the Past: Baking Bread" from *Let's Bake Bread* by Alice Winkler. Copyright © 1973 by Lerner Publications Company, 241 First Avenue North, Minneapolis, Minnesota 55401. Reprinted by permission.

Page 90: Adapted by permission of Pantheon Books, a Division of Random House, Inc. from *Lobo of the Tasaday* by John Nance. Copyright © 1982 by John Nance.

Page 104: Adaptation of "Oonagh and the Giant" from *The Skull in the Snow And Other Folktales* by Toni McCarty. Copyright © 1981 by Toni McCarty. Reprinted by permission of Delacorte Press/Seymour Lawrence and Bill Berger Associates.

Page 116: From "How the Lion Was Outwitted by the Hare" in *Lion Outwitted By Hare And Other African Tales* by Phyllis Savory. Copyright © 1961 by Phyllis Savory. Reprinted by permission of Bailey Bros. & Swinfen Ltd.

Page 118: Adapted with permission of Macmillan Publishing Co., Inc. from *Wiley and the Hairy Man* by

ISBN 0-673-21014-6

Copyright © 1985,  
Scott, Foresman and Company, Glenview, Illinois.  
All Rights Reserved. Printed in the United States of America.

This publication is protected by Copyright and permission should be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise. For information regarding permission, write to: Scott, Foresman and Company, 1900 East Lake Avenue, Glenview, Illinois 60025.

5678910KPH93929190898887

Molly Garrett Bang. Copyright © 1976 by Molly Garrett Bang.

Page 127: "Sharpen Your Wits" adapted by permission of the Putnam Publishing Group from *Funnier Than the First One*, Copyright © 1972 by Sonny Fox and Robert Gray.

Page 128: Mark Twain, *The Adventures of Tom Sawyer*, 1896.

Page 144: Adapted from *Space Travel* by Jeanne Bendick. Copyright © 1982 by Jeanne Bendick. Used by permission of Franklin Watts, Inc.

Page 157: From "Kidnap on Khrona" by Pauline Dorgan Guppy in *Child Life*, February 1977. Copyright © 1977 by The Saturday Evening Post Company, Indianapolis, Indiana. Adapted by permission of the publisher.

Page 186: Reprinted by permission of Dodd, Mead & Company, Inc. from *By the Seat of Their Pants* by Phil Ault. Copyright © 1978 by Phillip H. Ault.

Page 188: "On the Plateau of the Three Condors," adapted by permission of Random House, Inc. from *Great Flying Adventures* by Sherwood Harris. Copyright © 1973 by Sherwood Harris.

Page 200: From "Climbing High" by Betty Russell, reprinted from *Seventeen*® magazine, June 1980. Copyright © 1980 by Triangle Communications Inc. All rights reserved. Reprinted by permission of Triangle Communications and the author.

Page 204: From "Up Sheer Ice" in *Read* magazine, January 21, 1981. Copyright © 1981 by Xerox Education Publications. Reprinted by permission of *Read* magazine.

Page 212: Adaptation from *Hook a Fish, Catch a Mountain* by Jean Craighead George. Copyright © 1975 by Jean Craighead George. Reprinted by permission of the publisher, E. P. Dutton, Inc. and Curtis Brown, Ltd.

Page 232: From "From Sports Star to Ballet Dancer" by H. N. Levitt in *Boys' Life*, June 1979. Reprinted by permission of the author.

Page 242: "Pablita Velarde: Artist of the Pueblos" from *American Indian Women* by Marion E. Gridley. Copyright © 1974 by Marion E. Gridley. Reprinted by permission of the publisher, E. P. Dutton, Inc.

Page 252: From "Paint It and Post It," reprinted from *Seventeen*® magazine, April 1980. Copyright © 1980 by Triangle Communications Inc. All rights reserved.

Page 253: *The Human Mandolin* by Moses L. Howard. Copyright © 1974 by Moses L. Howard. Adapted and reprinted by permission of Holt, Rinehart and Winston, Publishers.

Page 270: "Shoes," "The Fork," and "Soap" from *The Invention of Ordinary Things* by Don L. Wulffson. Copyright © 1981 by Don L. Wulffson. Adapted by permission of Lothrop, Lee & Shepard Books (A Division of William Morrow & Company) and Scholastic Book Services Inc.

Page 273: Adapted from *Weird and Wacky Inventions* by Jim Murphy. Copyright © 1978 by Jim Murphy. Used by permission of Crown Publishers, Inc. and the author.

Page 296: Adapted from Jean Merrill: *The Toothpaste Millionaire*. Copyright © 1972 by Houghton Mifflin Company.

Page 310: Adapted from "The Spectator" by Allan Baillie in *Child Life*, August/September 1981. Copyright © 1981 by Benjamin Franklin Literary & Medical Society, Inc., Indianapolis, Indiana. Reprinted by permission.

Page 320: Abridged and adapted from *Sleep Less, Live More* by Everett Mattlin, pages 36-41. Copyright © 1979 by Everett Mattlin. Reprinted by permission of Harper & Row, Publishers, Inc.

Acknowledgments continued, page 543



# Contents

## Section One

### 15 Someone Special

#### Unit 1



- 16 Just Be Yourself
- 18 The Perfect Present  
Skill: Details
- 20 Be a Perfect Person in Just Three Days  
by Stephen Manes

#### Unit 2



- 30 A Friend Is Someone Special  
The Acrobats by Shel Silverstein
- 32 Using Context and Consonants  
Skill: Context and Consonants
- 34 Friendship Makes the Difference  
Skill: Main Idea and Supporting Details
- 36 What Can You Expect from a Real Friend?  
by Phyllis Reynolds Naylor
- 40 Quarreling with Care  
by Phyllis Reynolds Naylor
- 45 What's in a Name? Just for You

#### Unit 3



- 46 Special Heroes
- 48 Heroes Have Their Day  
Skill: Main Idea and Supporting Details
- 50 Rescue! by L. B. Taylor, Jr.
- 52 A Matter of Courage by Margaret Higham
- 56 Check It Out Reading Hint

## Section Two

### 57 Yesterday Touches Today

#### Unit 4 ◆

- 58 Buried Treasure
- 60 The Lost Treasure of Montezuma  
Skill: Time Sequence
- 62 Treasure Trap by Don Waters
- 71 Reading a Menu Life Skills

#### Unit 5 ◆

- 72 With Yesterday's Skills
- 74 Following Steps in a Process  
Skill: Steps in a Process
- 77 Shoeing a Horse  
by Jack and Patricia Demuth
- 80 Preserving the Past: Baking Bread  
by Alice Winkler
- 85 Making a Patchwork Quilt Just for You

#### Unit 6 ◆

- 86 When Old Meets New
- 88 Everglades National Park  
Skill: Maps
- 90 Lobo of the Tasaday by John Nance
- 98 I Can See It! Reading Hint



## Section Three

## 99 Living by Your Wits

### Unit 7



- 100 The Strength of Wits
- 102 The Giant and the Lad  
Skill: Characters
- 104 Oonagh and the Giant  
by Toni McCarty

### Unit 8



- 112 To Think of a Plan
- 114 Using What You Know  
Skill: Word Study Strategies
- 116 Lion Outwitted by Hare  
a Bantu tale retold by Phyllis Savory  
Skill: Theme
- 118 Wiley and the Hairy Man  
adapted from an American folk tale  
by Molly Garrett Bang
- 122 Woman of the Prairie by Patricia Demuth
- 127 Sharpen Your Wits Just for You

### Unit 9



- 128 The Glorious Whitewasher  
by Mark Twain
- 135 Using the Dictionary  
Skill: Dictionary
- 138 Books to Read

## Section Four

139

## Out There

### Unit 10



140

Beyond the Moon

142

Going to the Moon at the Movies

Skill: Comparisons

144

From Earth into Space by Jeanne Bendick

151

Reading a Travel Itinerary Life Skills

### Unit 11



152

Adventures in Space

154

Figuring Out Causes and Effects

Skill: Cause and Effect Relationships

157

Escape from Khrona

by Pauline Dorgan Guppy

### Unit 12



168

Strange Things in Space

170

Seeing Stars

Skill: Cause and Effect Relationships

172

What Is a Meteor?

175

Our Sun: A Special Star

179

How to Find the North Star

Just for You

180

Check Yourself Reading Hint



**Section Five****181****Mountain Adventure****Unit 13****182****Flying Through Danger****184****Understanding Idioms****Skill: Idioms****186****Crash! by Phil Ault****Skill: Predicting Outcomes****188****On the Plateau of the Three Condors  
by Sherwood Harris****Unit 14****196****Dangerous Climbs****198****Avalanche!****Skill: Drawing Conclusions****200****Climbing High by Betty Russell****204****Up Sheer Ice****207****Fro-gurt Just for You****Unit 15****208****Warning: Dangerous Animals Ahead****210****Dangerous Kittens****Skill: Drawing Conclusions****212****Hook a Fish, Catch a Mountain  
by Jean Craighead George****222****Questions: Your Tools for Reading  
Reading Hint**

<b>Section Six</b>	<b>223</b>	<b>Beautiful Things</b>
<b>Unit 16</b> ◆	224	Movement
	226	Moments to Forget and Judith Jamison: Dancer Skill: Fiction and Nonfiction
	228	The Pantomime by Catherine Whittington
	232	From Sports Star to Ballet Dancer by H. N. Levitt
<b>Unit 17</b> ◆	236	To Open Our Eyes
	238	Using What You Know Skill: Word Study Strategies
	240	Grandma Moses Skill: Fact and Opinion
	242	Pablita Velarde—Artist of the Pueblos by Marion E. Gridley
	246	Great Art—That Leaves with the Tide by Patricia Demuth
	251	Reading a Floor Plan    Life Skills
	252	Make Your Own Art    Just for You
<b>Unit 18</b> ◆	253	The Human Mandolin by Moses L. Howard
	261	Using the Encyclopedia Skill: Encyclopedia
	264	Books to Read



## Section Seven

265

## Eureka!

### Unit 19



266

You Made That Up!

268

Getting a Patent

Skill: Main Idea and Supporting Details

270

Everyday Inventions by Don L. Wulffson

273

Weird and Wacky Inventions

by Jim Murphy

### Unit 20



278

Making a Difference

280

How Can an Outline Help Me?

Skill: Outlining

286

A Wizard Named Edison

by Gary W. Bargar

### Unit 21



292

Go to Your Room

294

The Amazing Anna Mae

Skill: Details

296

The Toothpaste Millionaire

by Jean Merrill

303

Egg Shampoo Just for You

304

Sum It Up Reading Hint

## Section Eight

## 305 Bodyworks

### Unit 22



- 306 Body Hardships  
308 Joe Gets in Shape  
Skill: Time Sequence  
310 The Spectator by Allan Baillie

### Unit 23



- 318 Caution: Body Hard at Work!  
320 The Sleep Cycle by Everett Mattlin  
Skill: Steps in a Process  
322 Your Body at Work by Marie Winn  
326 After the First Bite by Patricia Demuth  
331 Some Body! Just for You

### Unit 24



- 332 Doctors: The Wonder-Workers  
334 Using a Diagram  
Skill: Diagrams  
337 A Tool That Can "Hear" Disease  
by Edward F. Dolan, Jr.  
347 Reading Warning Signs on Products  
Life Skills  
348 Think Before You Read Reading Hint



## Section Nine

349

## Solving Mysteries

### Unit 25



350

Ancient Egypt

352

The Life of a Pharaoh

Skill: Drawing Conclusions

354

The Tombs of the Pharaohs

356

Searching for the Boy-King

### Unit 26



362

Where Can Mysteries Be Found?

364

Making Predictions

Skill: Predicting Outcomes

367

A Night in the Old House

by Marjory Vetter

376

The Case of the Missing

Sky-High Sandwich Just for You

### Unit 27



377

The Red-Headed League

by Sir Arthur Conan Doyle

386

Using PQ2R

Skill: PQ2R

388

Books to Read

<b>Section Ten</b>	<b>389</b>	<b>Dangerous Voyages</b>
<b>Unit 28</b> ◆	390	Clipper Ships
	392	Figuring Out the Plot Skill: Plot
	395	The Strange Voyage of <i>Neptune's Car</i> by Joe Lasker
<b>Unit 29</b> ◆	404	The Nautilus
	406	The Monster in the Sea adapted from <i>20,000 Leagues Under the Sea</i> by Jules Verne Skill: Setting
	408	The Ice Journey adapted from <i>20,000 Leagues Under the Sea</i> by Jules Verne
	417	Something's Fishy    Just for You
<b>Unit 30</b> ◆	418	Modern Submarines
	420	Jim and Alvin by Sylvia Earle Skill: Referents
	422	Personal Submersibles by Sylvia Earle
	426	Strange Creatures of the Deep by John Sedgwick
	432	Long Trip by Langston Hughes
	433	Finding Facts Fast    Reading Hint



## Section Eleven

## 435 Sports Report

### Unit 31



- 436 One for All and All for One
- 438 Choosing the Appropriate Meaning of a Word  
Skill: Dictionary
- 440 Sally, the Winner  
Skill: Connecting Words
- 442 Wanting to Win by Donald Honing

### Unit 32



- 452 What Makes a Champion?
- 454 About Running by James F. Fixx  
Skill: Author's Purpose
- 456 The Great American Junior Gymnasts  
by Ken Fulton
- 460 Five Tournaments, All in a Row  
by Patricia A. Motto
- 466 Reading Care Labels for Clothes Life Skills
- 467 Peanuts by Charles M. Schulz Just for You

### Unit 33



- 468 Speaking of Sports
- 470 Who Said That?  
Skill: Biased Writing
- 472 *Young Sports* Presents: Questions of the Month
- 480 Different Ways to Read Reading Hint

<b>Section Twelve</b>	<b>481</b>	<b>Amazing Animals</b>
<b>Unit 34</b> ◆	482	The Little Creatures
	484	Monkey Business Skill: Cause and Effect Relationships
	486	The Tagalong by Catherine Whittington
	489	The Eskimo Woman and Her Strange Son by Louis Untermeyer
	495	Reading Information for Comparison Shopping Life Skills
<b>Unit 35</b> ◆	496	On the Move
	498	Using What You Know Skill: Word Study Strategies
	500	The Gray Whale Skill: Cause and Effect Relationships
	502	The Missouri Kid by Bil Gilbert
	511	Something Told the Wild Geese by Rachel Field
	512	Making Tracks Just for You
<b>Unit 36</b> ◆	513	The Rainbow-Colored Horse by Pura Belpré
	523	Books to Read
	524	Glossary

# Section One

# Someone Special

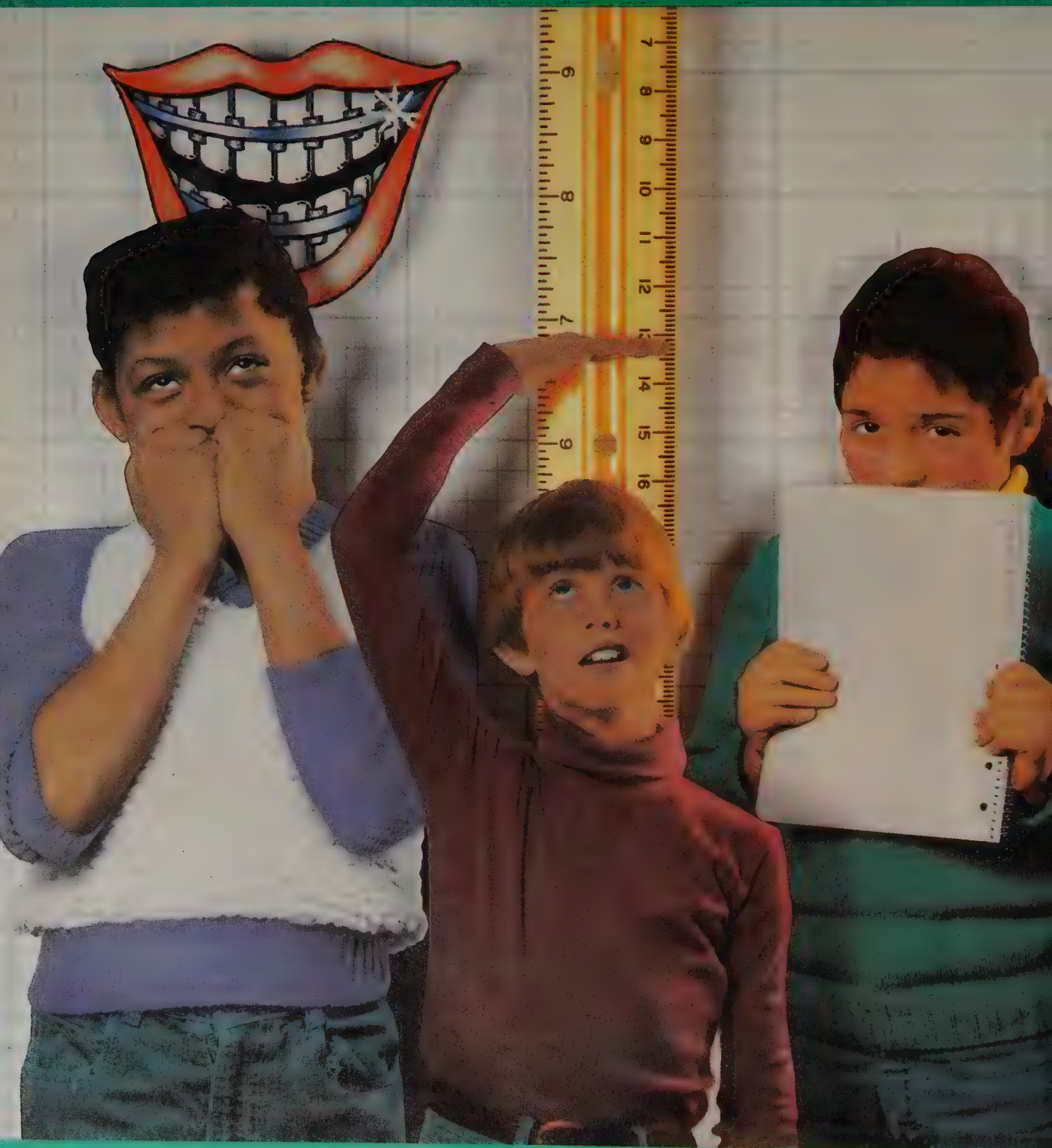


**Milo Makes Mayhem 16–29**

**Friends Fight Fair 30–45**

**Heroes Have Heart 46–56**







# Just Be Yourself

How much longer do I have to wear these braces?

How come I'm the shortest kid in this class?

Once, just once, I wish I wouldn't blush when I have to answer a question.

I wish I knew the answer to a question—any question!

Do you ever wish you were different or better than you are? Most people do. Sometimes you may even want to be more than just better—you may want to be perfect.

But you don't have to be perfect to be someone special—just be yourself.

# The *Perfect* Present

Kim knew how to give birthday presents that were just right. All it takes is a little bit of thought, Kim would always say. Kim knew that her friend Tom loved watermelon. So she planted some watermelon seeds in her yard. Tom's eyes lit up when Kim presented him with a huge, deep-green watermelon on his birthday. When he sliced it open, the pink juice smelled as sweet as summer. It was a perfect gift.

But perhaps the best gift Kim ever gave happened by accident. She bought the latest record by The Big Apples for her friend Margarita. Kim knew it was just right because The Big Apples was Margarita's favorite group. Kim wrapped the record, taped a fresh daisy on the card, and hurried to the party.

When Margarita began to open her gifts, she reached down into a big pile. She pulled out Kim's card and read, "Happy Birthday, Margarita. Love, Kim." Then a smile spread over her face.





“Look, everyone,” she said. “Kim gave me a daisy. Look at the beautiful, thin, white petals and the bright-yellow center. What a wonderful gift! Kim, how did you know my name means *daisy*?”

“I didn’t know,” Kim answered quietly. “But I’m glad.”

Later, when Margarita had found the record in the pile of gifts, she turned to Kim. “The record is great,” she said. But the daisy . . . the daisy is the perfect gift!”

### ***Sharpen Your Skills***

The **details** in a story help you picture and understand what is happening in a story.

1. What details describe the present Kim gave to Tom?
2. What details describe the present Margarita treasured the most from Kim?

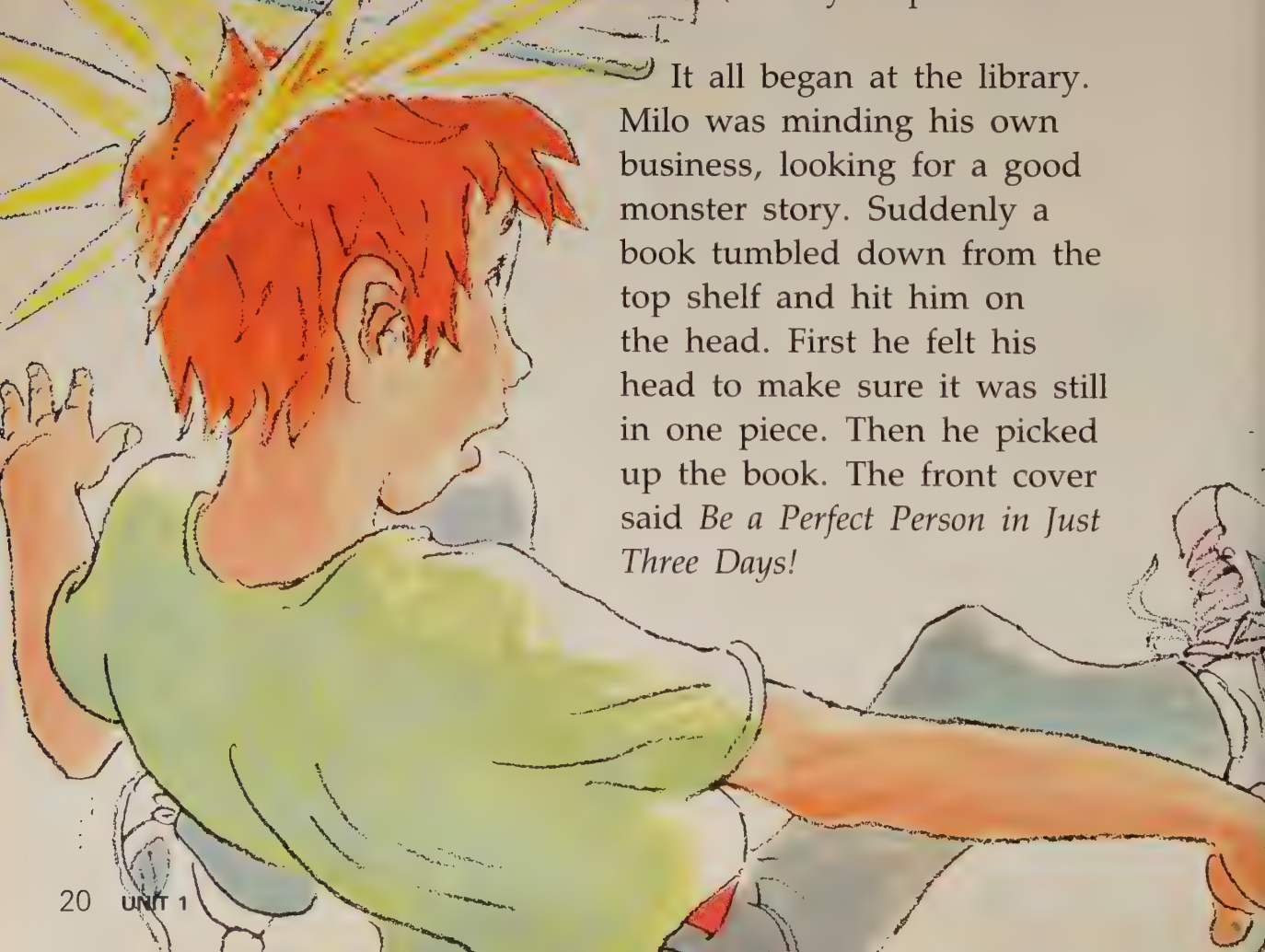
Use the details in the next story to form a picture of Milo, who was determined to “Be a Perfect Person in Just Three Days.”





# *Be a Perfect Person in Just Three Days*

by Stephen Manes



It all began at the library. Milo was minding his own business, looking for a good monster story. Suddenly a book tumbled down from the top shelf and hit him on the head. First he felt his head to make sure it was still in one piece. Then he picked up the book. The front cover said *Be a Perfect Person in Just Three Days!*

The author's picture was on the back. Dr. K. Pinkerton Silverfish did not look anything like Milo's idea of a doctor. Yet somehow Milo felt almost as though the book had jumped off the shelf, grabbed him, and shouted "Read me!" Besides, it was thin. It probably wouldn't take much time to finish. Milo checked out the book.

All the way home he thought about what it would be like to be a perfect person. He'd be able to do anything he wanted to. He'd do it right the first time. He would be able to throw out all his erasers. He'd get one hundred on all his tests. Best of all, nobody would ever have anything to blame him for. It sounded . . . well, perfect!

Of course, Milo was not there yet. That night at dinner his father told him not to spill his soup. His mother told him to quit eating so fast. And his sister, Elissa, told him to put his feet on his own side of the table.

Milo couldn't stand it. "I bet you'd love me more if I turned perfect," he said.

"I'd settle for less than that," said his father. "Nobody's perfect."

"Certainly not Milo," laughed Elissa.

"I'll show them," Milo thought. "Just three more days."



After dinner Milo went upstairs to his room, opened Dr. Silverfish's book, and began to read.

Here are your directions for the first day. When you finish reading this, get some broccoli. Tie a loop of string around the end. When you're all dressed tomorrow morning, put it around your neck and wear it. And don't take it off until I tell you to. See you tomorrow!

Milo couldn't believe his eyes. He turned the page.

Well, don't just sit there and stare! Go get the broccoli! And don't turn any more pages. Shut the book this instant!



Milo obeyed. He wondered how in the world wearing broccoli around his neck could possibly make him perfect, but he figured Dr. Silverfish must know what he was doing.

The next morning Milo knew that he would have to eat breakfast and face his family with this green vegetable hanging from his neck. It was not going to be easy. Milo went downstairs and into the dining room.

"What," his mother asked, "is that?"

Milo tried to play dumb. "What do you mean?"

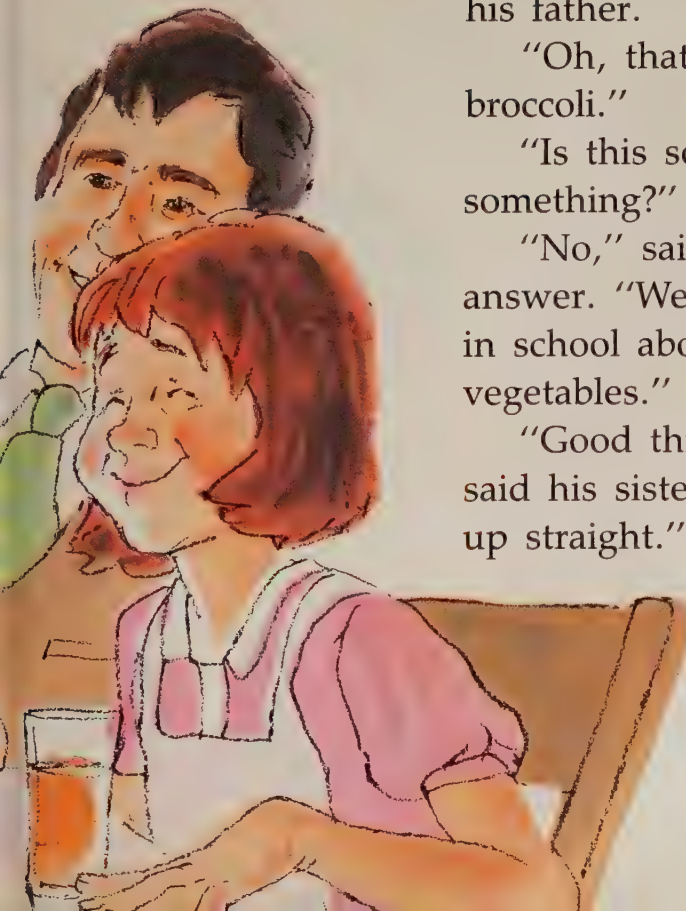
"That thing hanging from your neck," said his father.

"Oh, that," said Milo. "That's just some broccoli."

"Is this some kind of new fad or something?" asked his father.

"No," said Milo, trying hard to think of an answer. "We're . . . uh . . . doing a play in school about nutrition. I'm one of the vegetables."

"Good thing you're not a watermelon," said his sister. "You wouldn't be able to stand up straight."



The rest of Milo's day was pretty terrible. He was the center of attention in every class. His teachers asked him why he was wearing broccoli around his neck. He told them it was his doctor's orders. He was sick, he said. He didn't know what it was, but it wasn't supposed to be catching. The hardest part of his day was gym. The broccoli kept flopping around every time he did his pushups. Little green flowers started to drop all over his shirt.

It had been a rough day, but Milo felt proud of himself. That night at dinner he tried to be as good as he could, now that he was in training.





Milo had worn the broccoli around his neck for a whole day. That meant Milo never had to be afraid of being embarrassed again. That was a big step forward! But greater tests were ahead. On the second day Milo was not allowed to eat for twenty-four hours. It was hard, but he made it. And he had proved that he had will power. He was very nearly perfect! On the third day Milo was told to do nothing. This was the hardest test of all. Think about it! Milo could do nothing! Well, breathing and thinking were fine, but that was it! Hour after hour he sat trying very hard to do nothing.

Milo had never been so bored in his whole life. He felt as though years were going by. He began to wonder if perfection was all it was cracked up to be.

Suddenly Milo felt himself falling. He tumbled from his chair. He had gone to sleep. And sleeping was *doing* something!

Z

Z

Z

Z

Z

Z

Z

Z

Z

Z

Z

Z

Z

Milo was heartbroken. All that work and now he would never be perfect. At first he thought he would start over with Day One. But he decided it would be no use. And there was no sense saying he had never fallen asleep. Dr. Silverfish would know exactly what he was up to.

Milo picked up the book. Dr. Silverfish looked at him with a knowing smile. Milo did not smile back. He just opened the book.

CONGRATULATIONS!

YOU'RE PERFECT!

What more is there to say?

If by some strange chance you did not follow my directions turn the page.

Milo felt awful, but he turned the page anyway.

CONGRATULATIONS!

YOU'RE NOT PERFECT!

It's silly to want to be perfect anyway. You know what perfect is? It's not eating or

drinking or talking. It's not moving an inch or making even the smallest mistake. It's never doing anything wrong—which means never doing anything at all!

So you're not perfect! Wonderful! Have fun! Trip over your own feet! Laugh! Let somebody else laugh at you! Perfect people never do any of those things.

Phooey! Who needs them?

You can drink pickle juice and act like a monkey and do silly dances and wear funny hats and be as crazy as you please and still be a good person. Good people are hard to find these days, and they are a lot more fun than perfect people any day of the week.

Milo was feeling a lot better. He closed the book. It was hard to tell, but Dr. Silverfish almost seemed to be winking at him from the back cover.

That afternoon, Milo took Dr. Silverfish's book back to the library. He was through with it for good.





A few weeks later, one of his classmates came to school with a certain green vegetable hanging from her neck. A perfect person might have given her a few helpful words.

Not Milo. He just took a bite of his garlic and cheese sandwich and wiped up the mustard that dribbled down his chin. He didn't say a word.



## *Checking Comprehension and Skills*

1. What did Milo want to be? (21)
- 2. What three tests did Milo have to pass? (22, 25)
3. Do you think Milo should have continued his training after the first day at school? Why or why not?
4. Did Milo learn to be perfect? How do you know?
- 5. What does Dr. Silverfish say you can do if you're not perfect? (27)
6. Do you have to be perfect to be someone special? Why do you think as you do?
7. Why do you think Milo didn't say anything when he saw a classmate with broccoli around her neck? (28)
8. How do you think your friends would react if you were suddenly perfect?

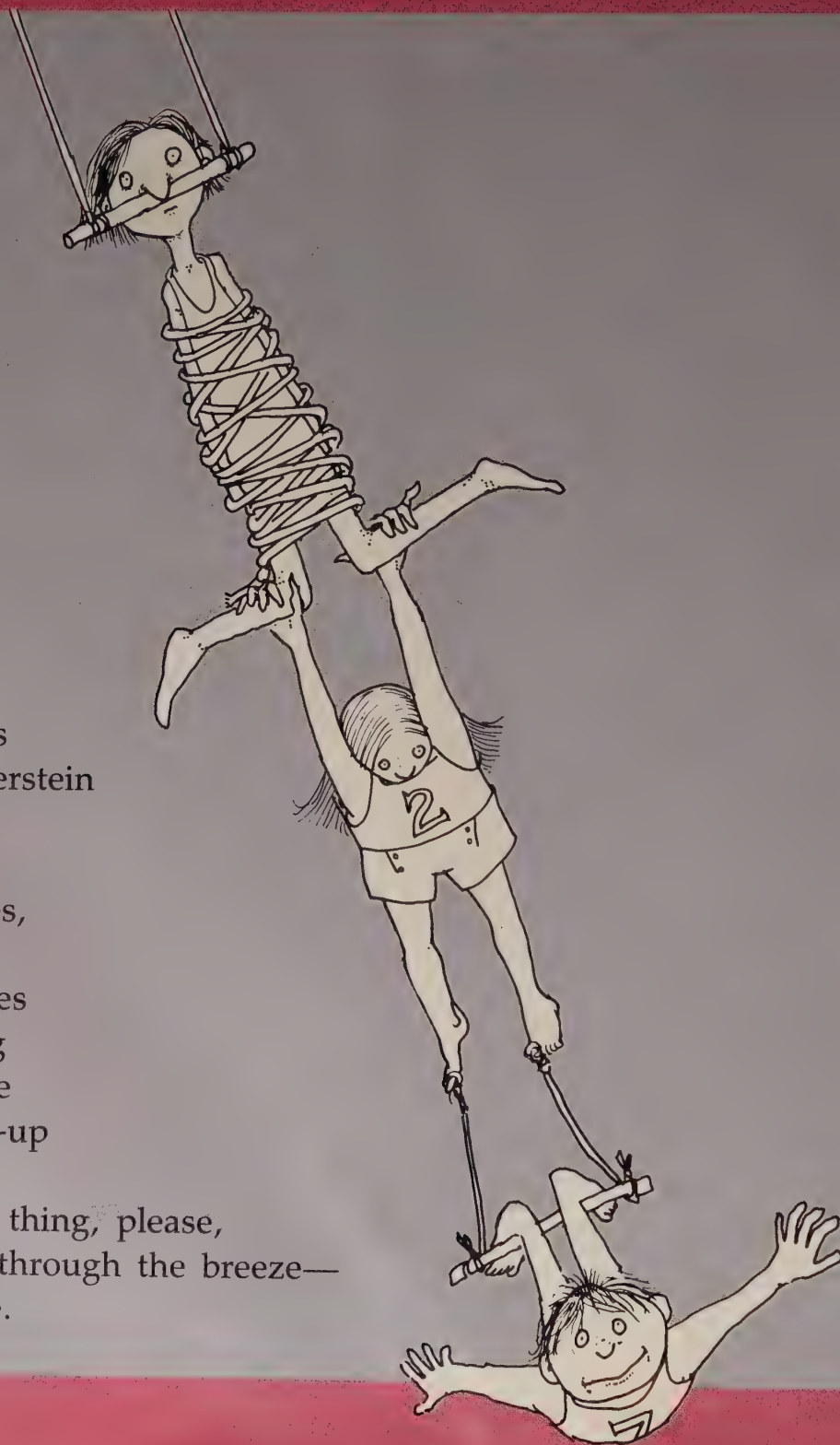
Use the context and consonants to figure out the incomplete word in each of the following sentences.

- 9. Milo was a vegetable in a play about  
n\_t\_\_\_\_.  
natural      nutrition      food
- 10. Milo wiped the m\_st\_rd from his chin.  
mastered      catsup      mustard

- Details      ◦ Context and Consonants

The Acrobats  
by Shel Silverstein

I'll swing  
By my ankles,  
She'll cling  
To your knees  
As you hang  
By your nose  
From a high-up  
Trapeze.  
But just one thing, please,  
As we float through the breeze—  
Don't sneeze.

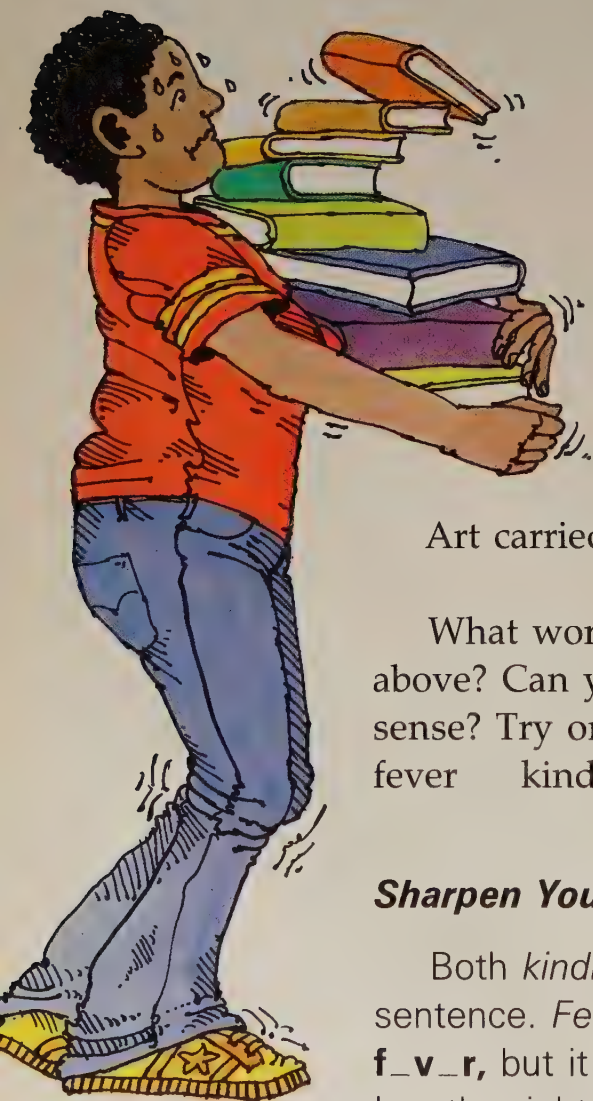




# A Friend is Someone Special

Like the acrobats, friends need to hold on to each other. Friends are special. But because no one is perfect, no friendship is perfect either. Sometimes friends “sneeze,” and make other mistakes. But real friends still hold on.

# Using Context and Consonants



Art carried some of my books as a **f\_v\_r**.

What word fits at the end of the sentence above? Can you think of a word that makes sense? Try one of these words:  
fever    kindness    favor

## ***Sharpen Your Skills***

Both *kindness* and *favor* make sense in the sentence. *Fever* has the same consonants as **f\_v\_r**, but it doesn't make sense. Only *favor* has the right consonants and makes sense in the sentence.

- When you come to a word you don't know, use the context, the words around the new word, and the consonants in the word to help you.
- First think of a word that makes sense in the sentence.
- Then see if the consonants in your word are the same as the consonants in the new word.
- Remember that *all* the consonants must match. They also must come in the same order as in the new word.

What words fit in these sentences?

1. Those books were as light as a **f\_\_th\_\_r**.  
feather      father      breeze
2. All of the books **b\_l\_ng** to the library.  
return      belong      bowling

Did you pick *feather* and *belong*? Now read the words in these sentences.

3. Friends can depend on each other to help each other out—right?
4. I was two months late taking my books back to the public library.
5. I said, "Art, old companion, will you help me pay the fine?"
6. But Art said the fine might be zillions of dollars by now. He wouldn't pay.

Use context and consonants to help you read new words in the next selections about friends.





## *Friendship Makes the Difference*

There are many friendships that have made a difference in people's lives. One of the most heart-warming friendships was between a teacher, Annie Sullivan, and Helen Keller, who was blind, deaf, and could not speak.

Annie Sullivan faced many problems when she met the seven-year-old Helen, but Annie wanted to teach her. At that time no one could understand Helen when she tried to speak. She was a lost, angry, but bright child locked in a world without words. Helen was

dirty and her clothes were unkempt. She ate with her hands and threw her food. Annie had to teach Helen to obey. Helen had to learn self-control before she could learn anything else. With care and hard work, Annie was able to teach Helen.

Annie's friendship made an important difference in Helen Keller's life. Helen learned to use sign language and to speak. She was able to go to college. Helen became a writer and teacher.

### ***Sharpen Your Skills***

To find the main idea of a paragraph, first ask yourself what the paragraph is mostly about—the **topic**. Then see if one sentence tells the most important idea about the topic. This is the **main idea**. Finally, look for **details** that tell more about the main idea.

1. In a word or two, what is the topic of the second paragraph?
2. Which sentence tells the most important idea about the topic?
3. Which details support the main idea?

Look for the main ideas and details as you read more about friendship—what to expect from friends and how to quarrel with care.

# What Can You Expect from a Real Friend?

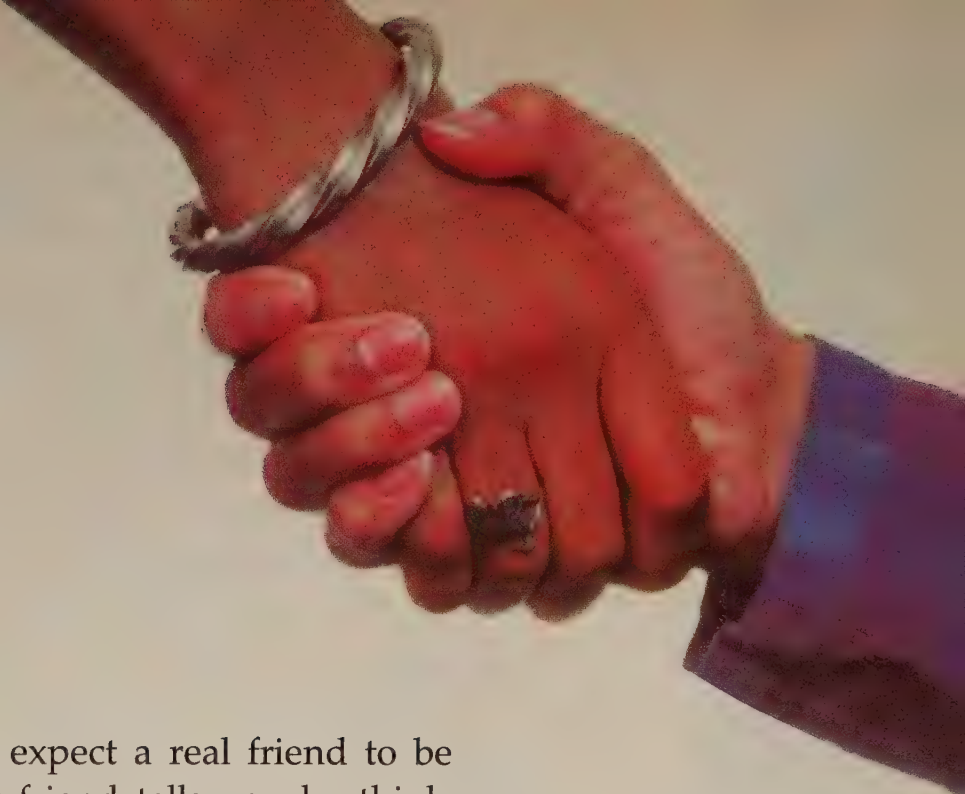
by Phyllis Reynolds Naylor

It is hard to believe that two people could be friends and always agree about everything. If you and your friend *never* argue, *never* see things in a different way, it is because one of you is not being honest.

Differences aside, however, what can you expect from people who say they are your friends?

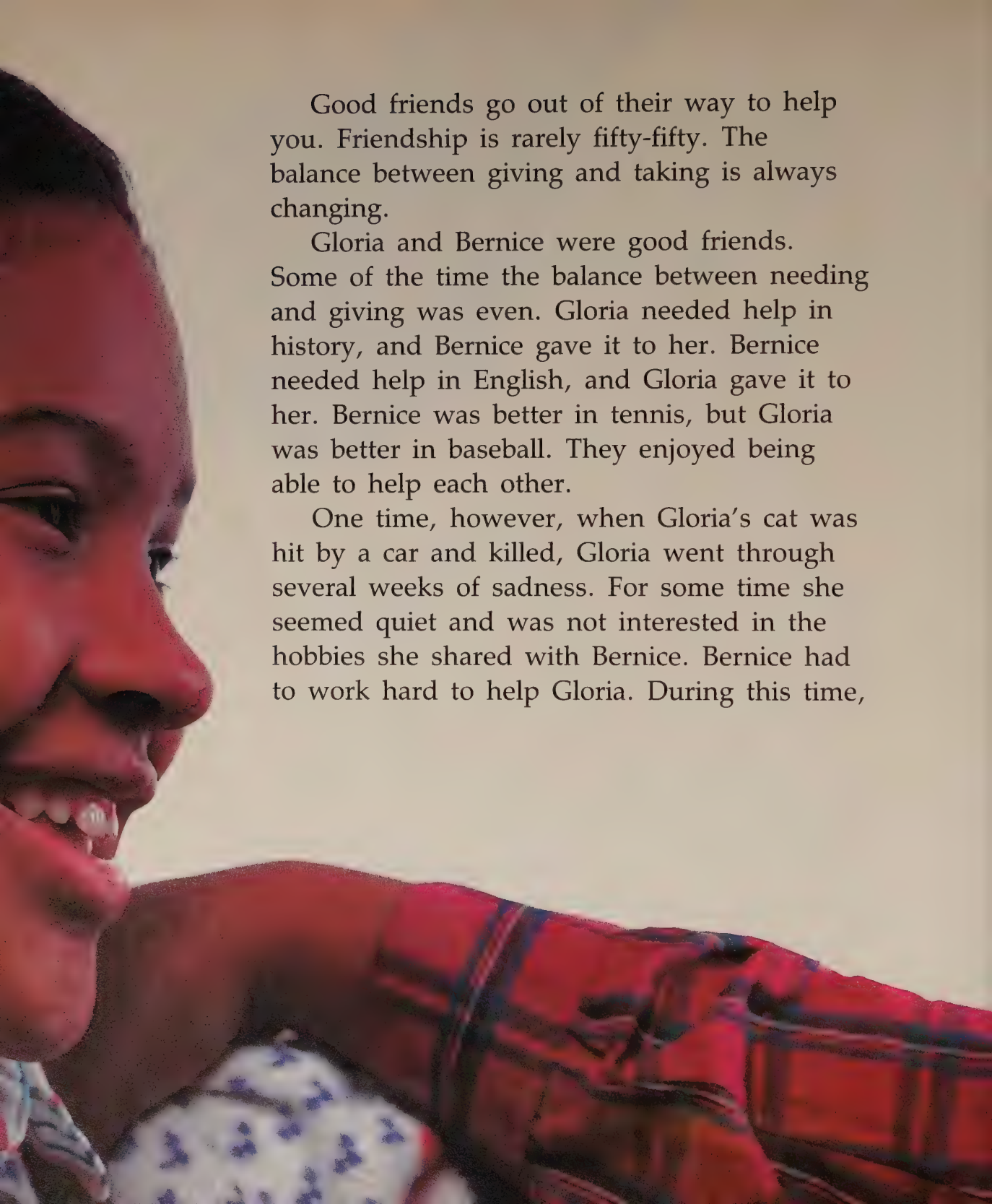
You should be able to count on good friends to stick by you in rough times as well as smooth times. Suppose your friends were all working to help you become an officer of your class. You would expect them to stick by you even if you failed. If you accomplish something, you should be able to count on real friends to be happy for you.





You should expect a real friend to be honest. If your friend tells you he thinks your Halloween party is a great idea, it would hurt to find out later he had been telling all the other kids that he thinks it's a dumb idea. If he really feels you are making a mistake, a friend should be honest with you and tell you as politely as possible.

You can depend on a good friend. Suppose your friend says she will lend you her cape for your part in the school play. You should be able to count on her. If she changes her mind the night before the play opens, she has not been a friend that you can count on.



Good friends go out of their way to help you. Friendship is rarely fifty-fifty. The balance between giving and taking is always changing.

Gloria and Bernice were good friends. Some of the time the balance between needing and giving was even. Gloria needed help in history, and Bernice gave it to her. Bernice needed help in English, and Gloria gave it to her. Bernice was better in tennis, but Gloria was better in baseball. They enjoyed being able to help each other.

One time, however, when Gloria's cat was hit by a car and killed, Gloria went through several weeks of sadness. For some time she seemed quiet and was not interested in the hobbies she shared with Bernice. Bernice had to work hard to help Gloria. During this time,

Bernice was doing all the giving. Gloria was able to give very little to their friendship.

And yet sharing this sad time made them even better friends. Gloria had found that Bernice could be counted on even when things were not going well. A few months later some of the girls in chorus were chosen to sing at the state capital. Gloria was picked, but Bernice was not. Now it was Gloria's turn to be kind and understanding. She was as friendly as ever. She did not talk about the trip all the time. Instead she talked about things that she and Bernice could share.

Remember that good friends are honest, dependable, and kind. But even good friends are not all of these things all of the time. They do make mistakes, but forgiving is part of friendship too.







# QUARRELING WITH CARE

by Phyllis Reynolds Naylor

When you disagree with your friends, it is how you go about it and what you say that is important. Jerry and Ed are looking for a special birthday present for their friend Pat. Jerry has an idea. Here are some ways in which Ed might respond to Jerry's idea.

1. "Jerry, I'm not sure that Pat would like this tennis book for his birthday. Maybe we can think of something better."


2. "Not a tennis book, Jerry! Can't you do better than that?"

3. "A tennis book! Are you out of your mind, Jerry? Pat can't even hit a ball, much less play tennis!"


4. "This is just about the worst present I ever saw, Jerry! Don't you ever pay attention to what other people like? That's you, all right. You go off and buy the first thing you see."

When you don't agree with your friends, tell them in a way that will not hurt their feelings. Think about how you would like to be told when someone doesn't agree with you.

Suppose you are upset with a friend and are about to let your friend know how you are feeling. Decide what your purpose is. Which of these sentences best says what you want to do?




1. "I'm really angry, and I'm going to insult her just like she insulted me."




2. "What he said doesn't make sense. When I get through with him, he's going to look really dumb."

3. "I'm sure I'm right. If I could just make her see my point of view."



4. "He feels very strongly about this, and so do I. If we can just get things out in the open and clear the air . . ."



Chances are there's a little bit of everything mixed up in your feelings. You may be feeling angry. If you've been hurt, you may also want to hurt your friend in return. And perhaps there's a real wish to patch things up, to understand and be understood.

The single most important thing you can do when you are having a quarrel with someone is to let him or her know how you feel. Tell your friend just as honestly as you can. Invite your friend to do the same. Say exactly what is on your mind.

Suppose your friend Cathy said she couldn't go roller skating with you because she was sick. Later you found out she went to a movie with someone else. Go up to her and simply say, "Cathy, you told me you were sick last night. But I heard you went to a movie with someone else. That really hurt. What happened?"

You have not said she was disloyal. You have not called her names. You just told her what you heard and asked her to explain. You have been honest and strong enough to let her know how you feel.

You could have ignored her for a whole week and never answered when she spoke to you.



You could have come up to her in history class and told her she was lying.

Instead, because you care about your friendship, you gave her a chance to explain. It's always possible that she might have had a good reason for not going with you. She might say that she's terrible at roller skating and didn't want to look foolish. Maybe she didn't have the nerve to tell you that in the first place.

Even if she has no good answer, you have shown that you can be honest and direct. If she cares about your friendship, she most likely feels bad about being disloyal and unthinking. Now that you have been honest about the way you feel, you can be friends again.



## Checking Comprehension and Skills

1. What does the word *friend* mean to you?
2. What four things can you expect from a friend? (36–38)
- 3. What is the most important idea in the first paragraph on page 37?
- 4. What should honest friends tell you if they don't really like your idea for a Halloween party? (37)
5. How did sharing good and bad times help Gloria and Bernice?
6. Why do you think the author of "Quarreling with Care" says that friends should be careful when they disagree?
- 7. What is the most important thing to do when quarreling with someone? (42)
- 8. What details explain what you should do when you quarrel with someone? (42)

Use the context and consonants to figure out the incomplete word in each of the following sentences.

- 9. Ed could r\_\_sp\_\_d nicely to Jerry's idea.  
answer      respond      respected
- 10. First, decide what your p\_\_rp\_\_ is.  
aim      purple      purpose

- Main idea and supporting details
- Context and Consonants

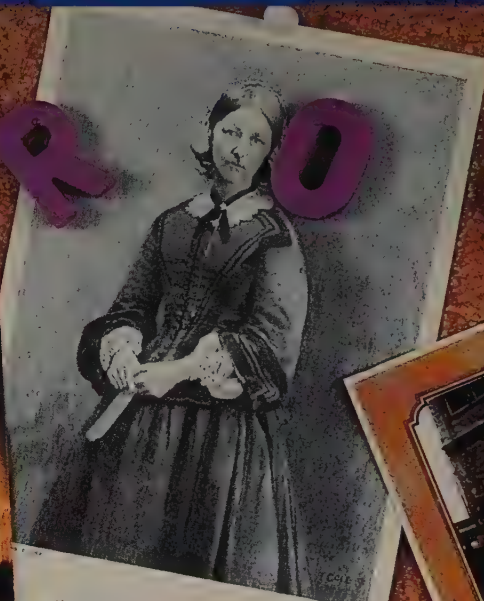
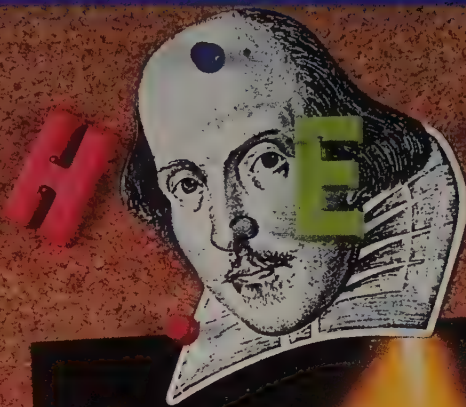
# What's in a Name?

One thing that makes you special is your name. Did you know that your name may have a meaning and history of its own? You can look in a large dictionary to find the meaning of your name and the language it is from. Here are some names and their meanings.

Name	Language	Meaning
Amy	Latin	beloved
Thomas	Greek	a twin
Brenda	Irish	beautiful
Phillip	Greek	lover of horses
Gina	Latin	queen
Miguel	Spanish	champion
Jennifer	Welsh	fair
Melissa	Greek	honeybee
Eric	Old Norse	brave

Look up your name in a large dictionary and see what you find!





*Florence Nightingale*



## Community News

### GIRL PROCLAIMED HEROINE

Typography may be defined as the art of rightly disposing of printing material in accordance with space, the purpose of so arranging the letters, distributing the space, and controlling the type as to the balance and the beauty of composition. It is an essential part of the printer's art, and it is the printer's duty to see that the material is printed in the most effective and beautiful manner possible. The printer's art is not only a matter of the letters, but of the whole page, and it is the printer's duty to see that the page is printed in the most effective and beautiful manner possible. The printer's art is not only a matter of the letters, but of the whole page, and it is the printer's duty to see that the page is printed in the most effective and beautiful manner possible.

Typography may be defined as the art of rightly disposing of printing material in accordance with space, the purpose of so arranging the letters, distributing the space, and controlling the type as to the balance and the beauty of composition. It is an essential part of the printer's art, and it is the printer's duty to see that the material is printed in the most effective and beautiful manner possible. The printer's art is not only a matter of the letters, but of the whole page, and it is the printer's duty to see that the page is printed in the most effective and beautiful manner possible. The printer's art is not only a matter of the letters, but of the whole page, and it is the printer's duty to see that the page is printed in the most effective and beautiful manner possible.



The main picture is a portrait of the heroine of the article. The girl is a member of the Girl Scouts and is a member of the Girl Scouts of America.







# Special Heroes

Most heroes are people like you. They go to school or work. They have friends and families. They have good times and bad times. What makes them heroes? They find special courage when they need it. They are brave enough to help in an emergency. Others may stand by. A hero sees what needs to be done and does it.

**Sports**

## Coaching kid's team well worth the effort

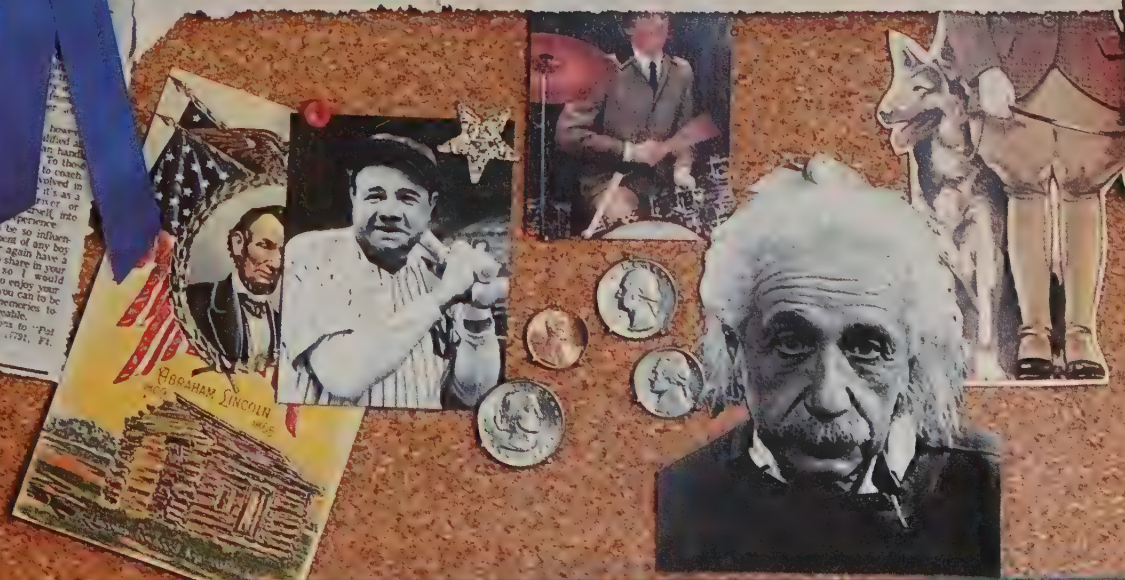
Question: I have a 9-year-old son and I'm seriously considering coaching him in Little League this coming season. Do you think fathers should coach their sons?

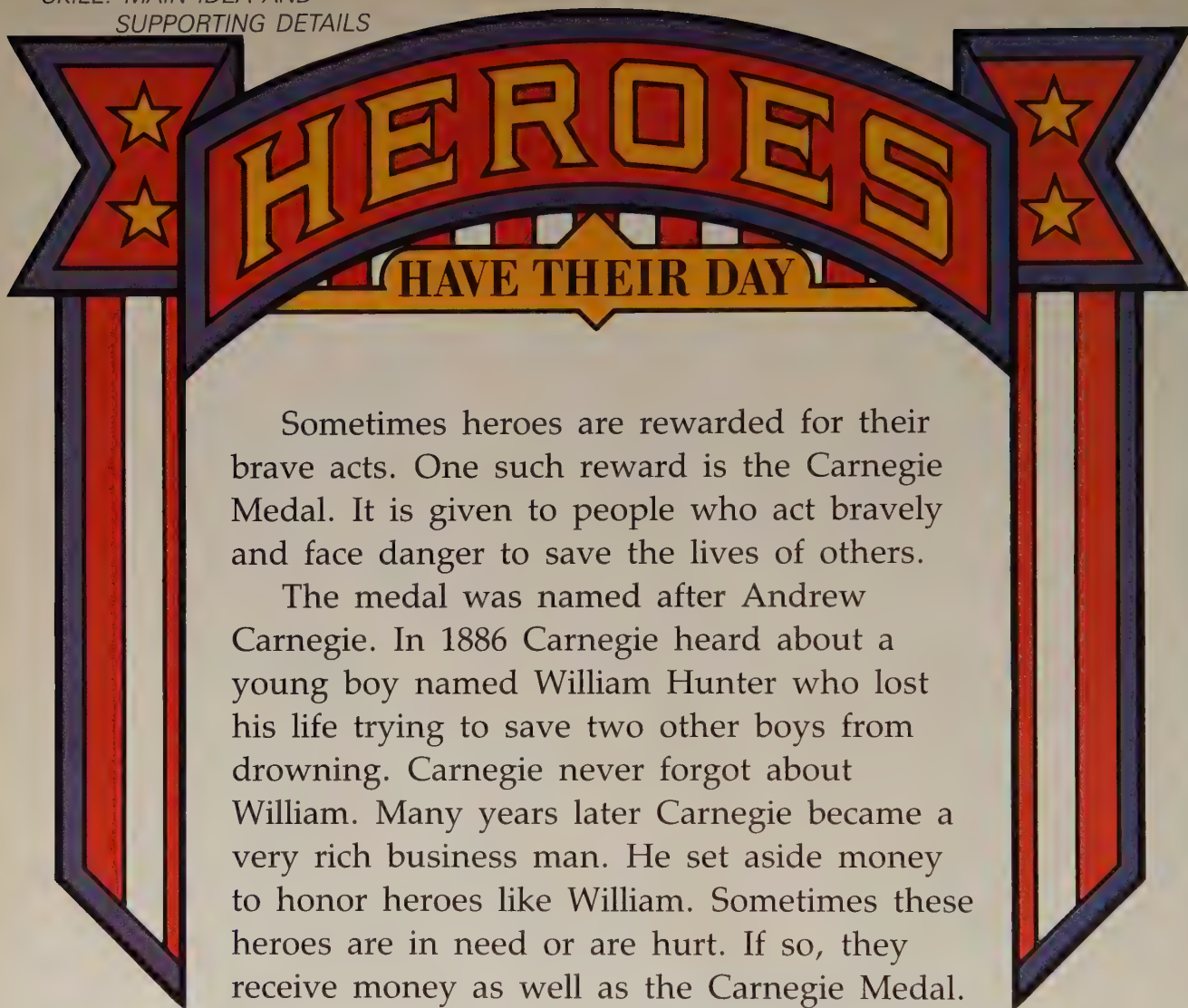
Answer: Before answering your question, I visited with a number of fathers, some who had coached youth sports. They had many things to say, and I'd like to share them with you.

First of all, if you are knowledgeable, why should you coach your son or his teammates? You develop as athletes and teach them the basic skills and fundamentals of the sport, then you should be out there doing it if you have the time and desire to do it. Don't pass up the opportunity just because one of the coaches just coaching the game. Values and reasons you want to coach to gain from athletics. Winning and losing are not objectives and are not responsible will be fulfilling in some development.

Also obviously, you'll be only on the field, but at home practicing and seeing together. Add the fact that the normal thing get together, seeing get together, making you share your things you see the negative stands and just enjoy boy play. To some coaches I spoke with,

Mitchell, Ky. 41007





Sometimes heroes are rewarded for their brave acts. One such reward is the Carnegie Medal. It is given to people who act bravely and face danger to save the lives of others.

The medal was named after Andrew Carnegie. In 1886 Carnegie heard about a young boy named William Hunter who lost his life trying to save two other boys from drowning. Carnegie never forgot about William. Many years later Carnegie became a very rich business man. He set aside money to honor heroes like William. Sometimes these heroes are in need or are hurt. If so, they receive money as well as the Carnegie Medal.

Over 6,000 people have received the Carnegie Medal. Young and old alike have been rewarded for brave deeds. Some have saved people from drowning or helped them from burning buildings. Others have pulled people from in front of moving trains or saved them from attacks by wild animals. All



these heroes have one thing in common, however. They put someone else's safety ahead of their own.

### ***Sharpen Your Skills***

The **topic** of a paragraph is, in a word or two, what the paragraph is about. The **main idea** is the most important thing the paragraph tells you about the topic. Sometimes a main idea is not stated, so you have to find it yourself. **Supporting details** are small bits of information that tell you more about the main idea.

1. What is the topic of the second paragraph?
  - a. the Carnegie Medal
  - b. William Hunter
2. What is the main idea of the second paragraph?
  - a. Carnegie was a very rich man.
  - b. Carnegie wanted to honor brave people.
3. What details in the second paragraph support the main idea?

Use what you know about main ideas and supporting details to help you as you read the following selections about special heroes.

# RESCUE!

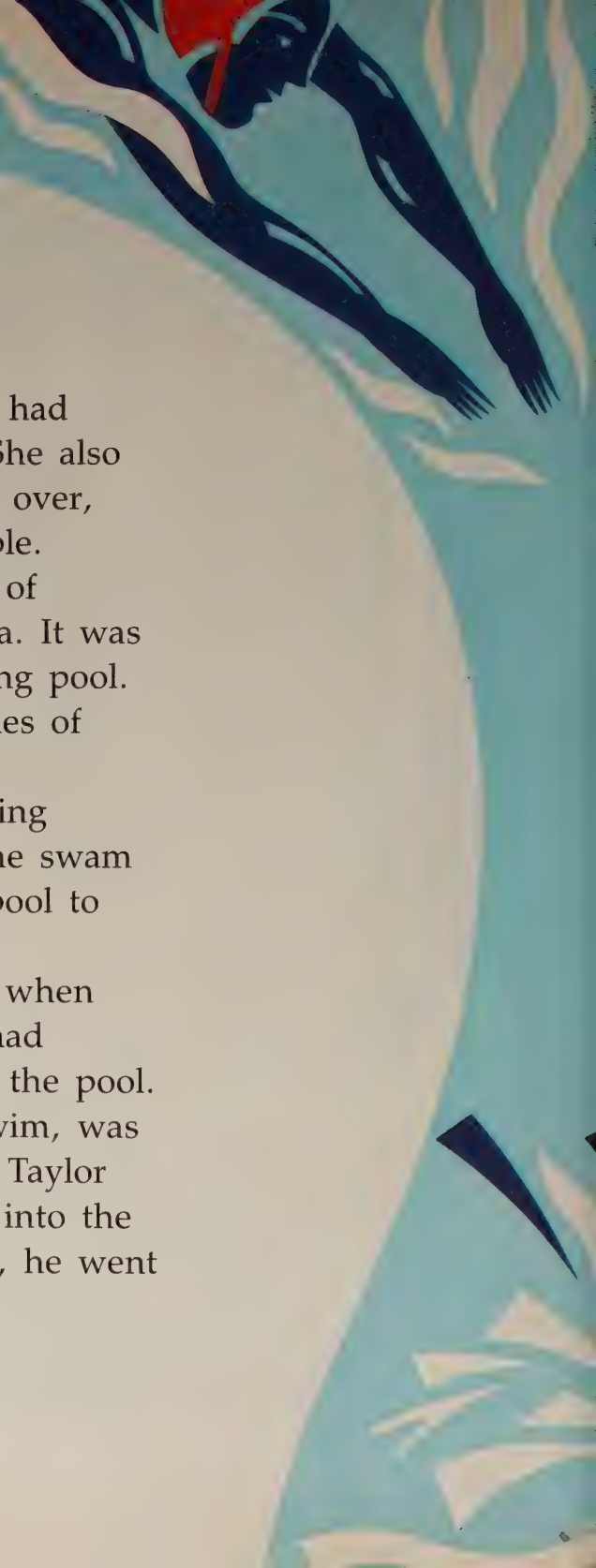
by L. B. Taylor, Jr.


On June 17, 1972, Karen Edwards had never heard of the Carnegie Medal. She also had no idea that before that day was over, she would save the lives of two people.

It was one of the first warm days of summer in Duncansville, Pennsylvania. It was a great day to enjoy a motel swimming pool. Kids were splashing and playing games of pool tag.

Thirteen-year-old Karen was enjoying herself. She was a good swimmer. She swam for awhile. Then she got out of the pool to dry off.

Eugene Taylor was resting nearby when he noticed that his ten-year-old son had somehow fallen into the deep end of the pool. His son, who didn't know how to swim, was trying to keep his head above water. Taylor couldn't swim either, but he jumped into the pool, trying to reach his son. Instead, he went under and did not come back up.





Karen saw what was happening. While others stood by, she dived in. She reached the boy quickly and pulled him to safety. Then she swam back to where Taylor was floating, face down, below the surface of the water.

Taylor weighed nearly 100 pounds<sup>1</sup> more than Karen. But somehow she found strength she didn't know she had, and brought him to the surface. Then Taylor began to kick. Karen lost her hold on him.

Out of breath and very tired, Karen once again reached for Taylor. Slowly she worked toward the side of the pool. When she was close enough, someone held out a pool chair. Karen held on to it. She was pulled to the side of the pool along with Taylor.

Had it not been for Karen's quick thinking, both Eugene Taylor and his son would most likely have drowned.

Some months later, after receiving the Carnegie Medal, Karen said, "Rescuing someone is the hardest thing to do. You must try not to panic and believe in yourself. The Carnegie Award is something I will always remember and be thankful for."

---

1. about 45 kilograms



# A Matter of Courage

by Margaret Higham

Lisa Kaufman lives with her mother and father, eight brothers and sisters, several cats and a dog in Manitoba, Canada. Lisa does well in school, loves animals, and would like to be a photographer some day. She is very much like many other thirteen-year-old girls, except for one thing. Lisa saved the lives of four children.

Lisa with her niece and nephews



One Saturday Lisa was baby-sitting for her older sister Terry's four children. Lisa had a bad cold. She was glad to sink down on the soft rug in Terry's living room to watch TV with Herbie, six, Bruce, five, and Michael, three. She had just checked upstairs on baby Jennifer, eighteen months, and found her sleeping and warm in her bed.

As the children watched TV, Michael said, "I want a cookie." He padded into the kitchen in his bare feet.

He was back in a second, yelling, crying, and holding an oatmeal cookie. Lisa dashed into the kitchen. Flames and smoke were pouring through the open basement door. She slammed the door shut and jumped back just seconds before the door exploded into the kitchen.

Lisa ran into the living room. In an instant she had gathered Michael, Bruce, and Herbie in the circle of her arms and was pushing them toward the front door.

"What are you doing, Lisa?" Herbie said. "I want to watch TV!"

"Run outside the fence and stay there!" Lisa ordered.



Lisa receives the Silver Cross from Mrs. F. L. Jobin, wife of the lieutenant governor of Manitoba, Canada.

Lisa knew what she had to do next. She was up the stairs two at a time and into Jennifer's room. She grabbed a blanket and wrapped it around the sleeping baby. She reached the bottom of the stairs with Jennifer in her arms just as flames were licking the front door.

Lisa handed the baby to Herbie. "Hold her tight. I have to call the fire station," she cried. Lisa pounded on five doors before she found a neighbor at home who could phone the fire station.

When the fire was over, bent metal was all that was left of the refrigerator and stove. A few burned steps led to Jennifer's bedroom.

Lisa received a medal, the famous Silver Cross, for her brave act. When asked how she knew to act so quickly to get the children out, Lisa said, "It was nothing, really. I had taken a Fire Safety Course. I didn't really have time to panic."

And what about Michael's cookie?

Lisa laughed. "That cookie!" she said. "There it was after the fire, lying on a burned table—a bit burned itself, but still in one piece!"



## ***Checking Comprehension and Skills***

1. Why did Karen Edwards get the Carnegie Medal in "Rescue"? (51)
- 2. What is the main idea of the first paragraph on page 51?
  - a. Karen took action when she saw danger.
  - b. Taylor was face down in the water.
3. Why did Lisa Kaufman win a Silver Cross in "A Matter of Courage"? (53–54)
- 4. What is the main idea of the first paragraph on page 54?
  - a. Lisa wrapped a blanket around the baby.
  - b. Lisa acted quickly to save the baby.
- 5. What details tell you how Lisa saved Jennifer? (54)
6. How are Lisa and Karen alike?
7. This Unit is called "Special Heroes." Tell about someone who is a special hero to you.

Tell what the root word and ending is for each of the underlined words below.

- 8. Lisa ran to the children and gathered them in the circle of her arms.
- 9. Lisa received a medal for her brave act.

- Main idea and supporting details
- Structure: Root words and endings with and without spelling changes

## Check It Out

Sue promised to meet Anna at the football game. She glanced at the crowd to get a general idea of where people were sitting. She found the sixth grade, and then found Anna.

When you look for a friend in a crowd, you first glance quickly at everyone. When you read, begin the same way—by glancing at the pages. This is previewing. To **preview**, you look over the titles, pictures, and words to see what the pages are about. Try it now.

1. Turn to the Table of Contents on pages 3–14 of this book. Glance at the titles of the Sections. What are Sections 5 and 10 about?
2. Look through Section 2, pages 57–98. Read the title of the Section. Then look at the titles of the selections and the pictures. What are some of the selections about?

Try previewing whenever you begin to read.



## Section Two

# YESTERDAY TOUCHES TODAY



**Face to Face with a Skeleton 58-71**

**Working Wonders with Ancient Crafts 72-85**

**The World in a Rain Forest 86-98**







## Buried Treasure

Some of the most exciting reminders of the past are still buried today in North America. Gold! Silver! Jewels! Treasures which have not been seen since the days they were buried lie deep beneath the ground.

Huge amounts of treasure were buried during the 1500s and 1600s. At that time, the people who lived in Central and South America were often robbed of their riches by people who came from across the seas. As a result the Native Americans sometimes buried their riches in order to protect them. Stolen treasures were also buried by pirates. Some were not able to return and dig up their treasures.

Many of yesterday's treasures are still out there . . . waiting to be discovered today.



## The Lost Treasure of

# Montezuma

In some spot in the United States or Mexico over ten million dollars' worth of gold and jewels is buried. The treasure has been hidden for over four hundred fifty years. Here's how it happened.

The treasure belonged to the Aztecs of Mexico. Montezuma was their king. In 1520 Montezuma was warned that Spanish soldiers were heading toward his capital city (now called Mexico City). Montezuma had been friendly to the Spaniards when they first came. However, the Spaniards had started a war in order to take the Aztecs' riches, and Montezuma no longer trusted them.

When Montezuma heard that the Spanish soldiers were coming back, he ordered all the royal buildings stripped of gold and jewels. Then he gave the treasure to several Aztec soldiers with orders to bury it in the north until the Spaniards had gone.

Not long after that, the Spaniards captured the capital city and took Montezuma prisoner.



Their leader, Cortes, knew that he could not hold out for long against thousands of Aztecs. Then Cortes asked Montezuma to speak to his people. "Ask them to stop fighting, and we will leave quietly," he said. When Montezuma asked for peace, the Aztecs became very angry. They stoned him to death.

Montezuma left no record of where he sent the treasure. No one ever found it. Most likely, it is still buried. The question is *where*?

### ***Sharpen Your Skills***

As you read, notice the **sequence**, or the order, in which things happen. Clue words (such as *first*, *then*, *later*, *after*, and *not long after*), as well as dates, help you understand the order in which events take place.

1. What happened first? second? third?
  - a. Montezuma was killed.
  - b. Aztec treasure was buried.
  - c. Spanish troops captured the Aztecs' capital city.
2. Name two clue words that help make the sequence of events clear.

Notice the order of events as you read "Treasure Trap."



## Treasure Trap

by Don Waters

*Twelve-year-old Teresa Alvarez headed out to sea early one morning in her father's fishing boat. She was going to a string of small islands about four hours away. No one lived there now, but hundreds of years ago pirates and Spanish soldiers sailed among these islands. Many stories have grown up about the treasures they hid there.*

*In this fictional adventure, Teresa decides it will be fun to explore the islands. On the boat she thinks, "You never know what I might find."*

Teresa arrived at a small island about noon. Hungry, she searched the sea cliffs near the shore for shellfish and came upon an opening in the rocks. Teresa looked inside. The opening led to one big room of a cave. A pool of water was its floor. Its roof was rock.

Lighting some dry palm leaves with a match, Teresa stepped inside. As she walked through the cave, the water got deeper, covering her hips. At the end of the first room, the cave bent around a turn. Teresa followed it. She could no longer see the light from the opening behind her.

After a few feet, the roof of the cave sloped down into the water, making a wall in front of her. At first Teresa started to turn back. But then she hesitated. She felt a gentle stream of water flowing by her ankles. The stream must be running through the cave from farther back. That meant there had to be another room of this cave just ahead.

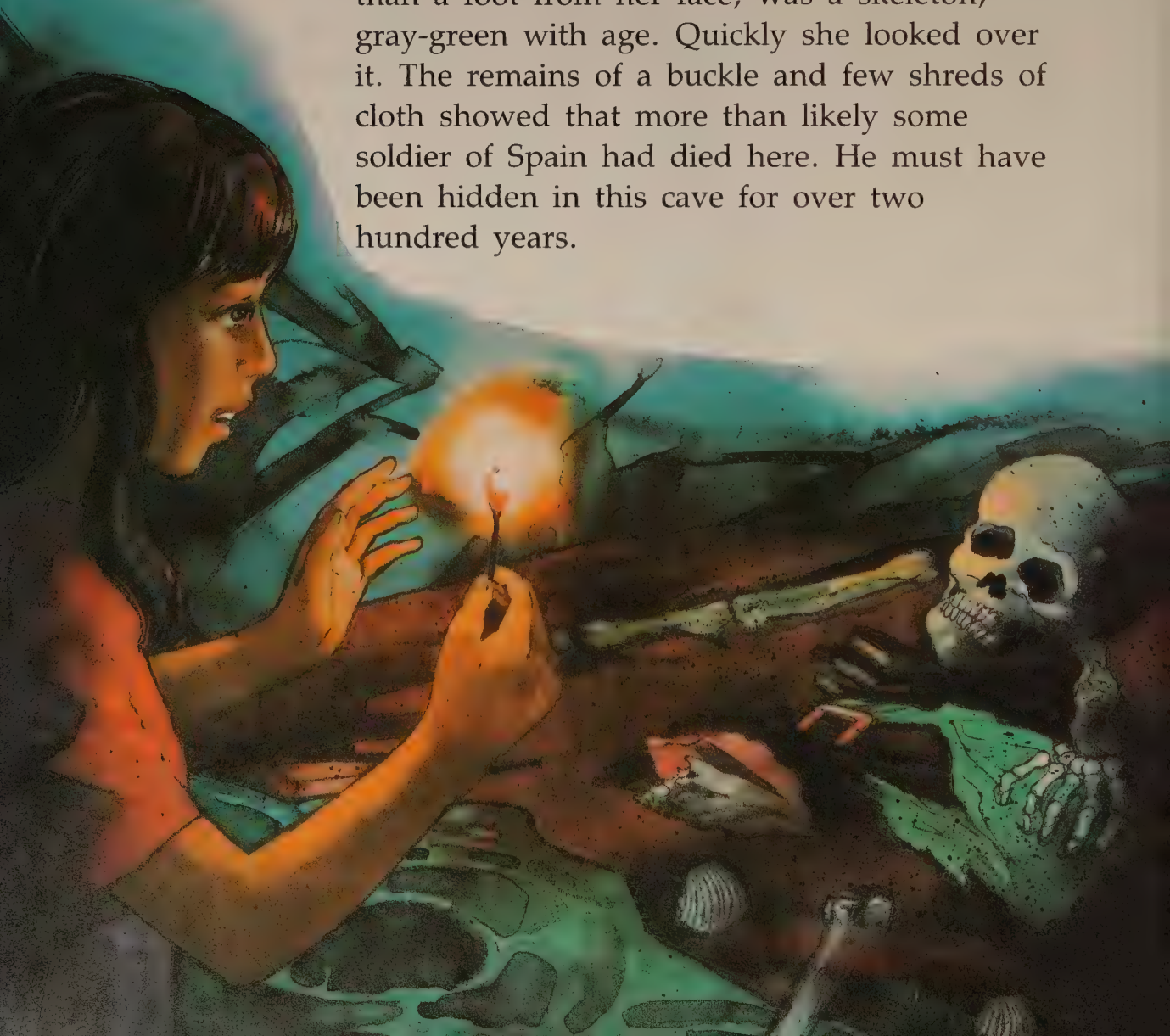
The fire from the burning leaves went out. Teresa tossed the ends away, caught her breath, and dived under the water. Her hands scraped the walls on either side, for she was diving through a narrow corridor of rock. After a few strokes, she reached up and could not feel the roof above her.

Her head came up above the water. Teresa was now in the other room of the cave. She brought her feet down, but the water was too deep for her to touch bottom. She swam and tried again a few seconds later. This time, the water was not deep. The floor of the cave reached up to a small stone-covered beach.



Standing on the beach, Teresa took out the small bottle that held her matches and removed its cork. She lit a match. In its weak light she looked straight ahead . . . into a grinning skull.

Teresa gasped. On a rock shelf, not more than a foot from her face, was a skeleton, gray-green with age. Quickly she looked over it. The remains of a buckle and few shreds of cloth showed that more than likely some soldier of Spain had died here. He must have been hidden in this cave for over two hundred years.



By the light of another match, she saw a conch shell lying in front of the age-old bones. The hole at its end had been stopped with a plug of hard wood.

As she picked it up, a faint rattle came from inside. Teresa pulled the plug out and turned the shell up. Into her cupped hands fell a stream of round, hard stones. They were smooth and sleek to her touch. Teresa knew she was holding a handful of pearls!

She rolled them around in her hand. Her heart beat fast. She held a treasure. She and her family were rich now!

Teresa turned. There was nothing more to keep her here. She dropped the pearls into a pouch on her belt. Then she waded into the water, dived, and headed to where she was certain the opening lay. But her groping fingers met only the smooth, wet rocks.

Teresa caught her breath and tried again. The same thing happened. She had lost her sense of direction in this black hole. She dived again and again, but without coming upon that narrow opening under the water that would lead her back to the opening of the cave.

The cold, damp air of the cave seemed to close in on her. It was a stale air that held the chill of death.

Blind fear came over Teresa. She had only two matches left. To be sealed up here in the never-ending night was terrifying. The blackness pressed closer and closer on her. Silence lay dead over all. Not the faintest whisper of sound from the outside came here. She was cut off from the world. She was in a dripping dungeon with a door sealed tight.

Hardly stopping between dives, she dove again and again. Her hands blindly pushed against the rock. Time seemed to stop. There was no way to mark the passing of the hours. She swam underwater, round and round, reaching desperately for the opening.

At last she stopped and reasoned with herself. She'd never escape unless she kept her head. She stood on the beach and felt the small stones beneath her feet. Then she realized with a shock that the tide was coming in because the water level was rising.

Teresa climbed up on the shelf next to the old bones. She thought of the soldier's end. He must have been up against her same hopeless situation. Perhaps he had come here to hide his treasure. He never got back out. She sat alone in the darkness with her thoughts. Her own breathing and the dripping of water from her jeans were the only sounds.



The hours passed. She'd been in here since almost noon. Now the tide was going out. Little by little the water level was going down. A swift stream should be running out of this pool now to the outside.

Slowly it came over her. The stream that was flowing out could be her guide. The only current in this dead water would be the lively one reaching out the small opening.

Teresa took out her match bottle and removed the cork. Slowly with her knife she shaved the cork into small pieces, catching them in her hands. She waded out until the water was shoulder high. Then she let the little crumbs of cork fall from her fingers. Slowly she backed away, moving inch by inch not to make waves in the water.

She reached the edge of the wall, leaned against it, and waited. The long minutes passed. Several times she started to move, but made herself remain where she was. It seemed like ages as the tide crept down, until the water she stood in was but ankle deep.

Finally she moved. With her knife in her teeth and the match glass held high, she stepped slowly out into the pond.

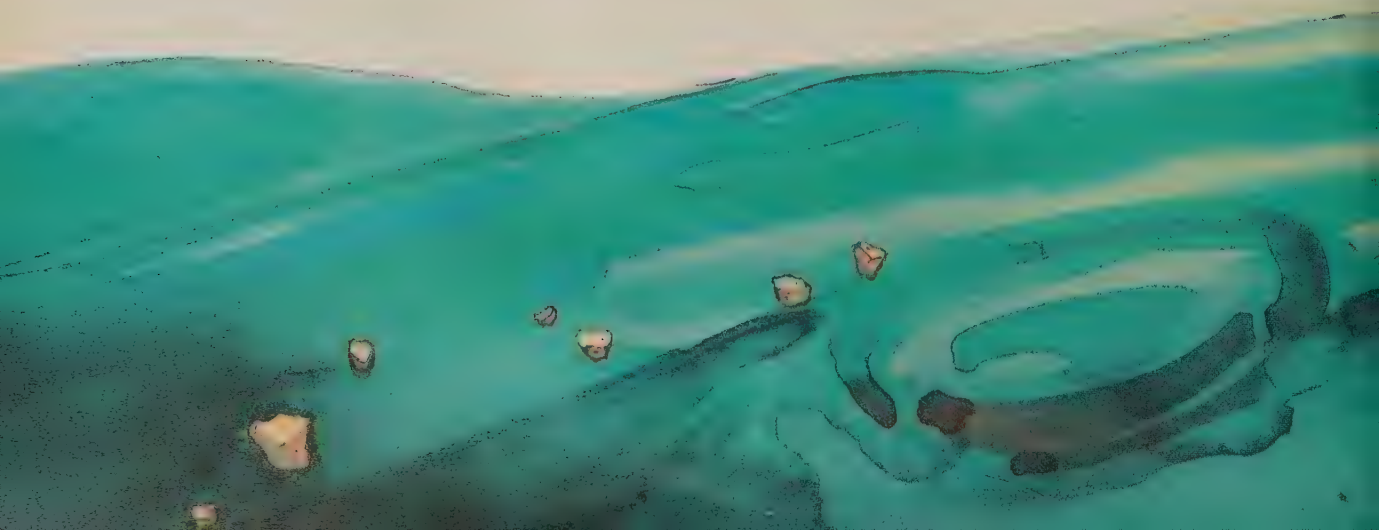
At last she walked far enough into the pool so the water came up to her shoulders. Her hands were shaking as she took a match from

the bottle. She scraped it across the knife handle six times before it lit. She watched the tiny flame glow, brighten, and then die.

She had just one more chance. She had one match left. She waited a moment before she struck it. The wood caught and a little bob of light wavered, then burst into flame.

She looked down. The cork she had dropped was not in sight. Perhaps she had waited too long. Perhaps it had been sucked under and out of sight by the tide. She turned around, the tiny flame high over her head. Then she saw the bits of cork floating on the black water. They had spread into a curved line.

Her match went out. Darkness closed down again. Yet in that one brief instant before, she had received the hint she needed. The line of the cork had pointed out the direction of the current.



She dived. Her hands were stretched out before her when one shoulder hit the rocks. She'd found the opening. After a few swift drives of arms and legs, she raised herself up.

Ahead a dim glow blossomed like a flower. She turned the corner in the cave, and the mouth came in sight. Seconds later she stepped out into the clean, fresh air. Above the crashing of the waves, she heard the strong cry of a gull.

Teresa threw back her head, and loud and clear her own voice rose in answer.





## Checking Comprehension and Skills

1. Why did Teresa go to the islands? (62)
2. How did Teresa know there was another room in the cave? (63)
3. What did Teresa find in the second room of the cave? (64–65)
4. What did Teresa have to do once she put the pearls in her pouch?
- 5. Arrange in order the following steps in Teresa's plan to reach safety.
  - a. Then she saw bits of cork spread in a curved line in the water.
  - b. Teresa lit her last match.
  - c. Seconds later she was out of the cave.
  - d. She dived in the water.
- 6. What clue words helped you arrange the events in order?
7. What kind of a person was Teresa?

Read the sentences below. Which response shows how each underlined word should be divided into syllables?

- 8. Teresa had to escape from the cave.  
e•scape      es•cape
- 9. Silence lay over all.  
Si•lence      Sil•ence

- Sequence: Time sequence
- Structure: Syllables

# Reading a Menu

Whenever you read a restaurant menu (like the one on this page), look for small print that tells you what is included in your order. *À la carte* means that you get just the main course, no extras.

1. What will you get if you order the Broiled Trout Dinner?
2. You don't think you have enough money for a dinner so you get some side orders: soup, salad, a codfish cake, and milk. Will you spend more or less for the side orders than for the Codfish Cakes Dinner?

## The Sea Treasure Restaurant



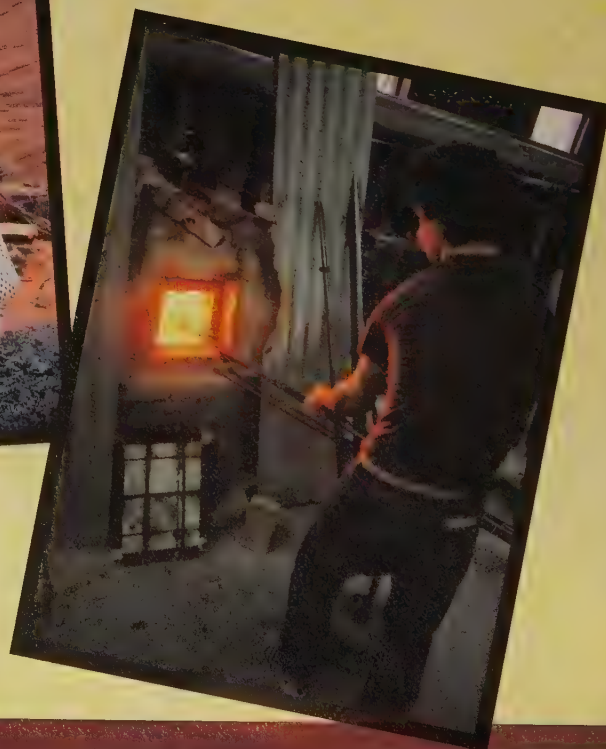
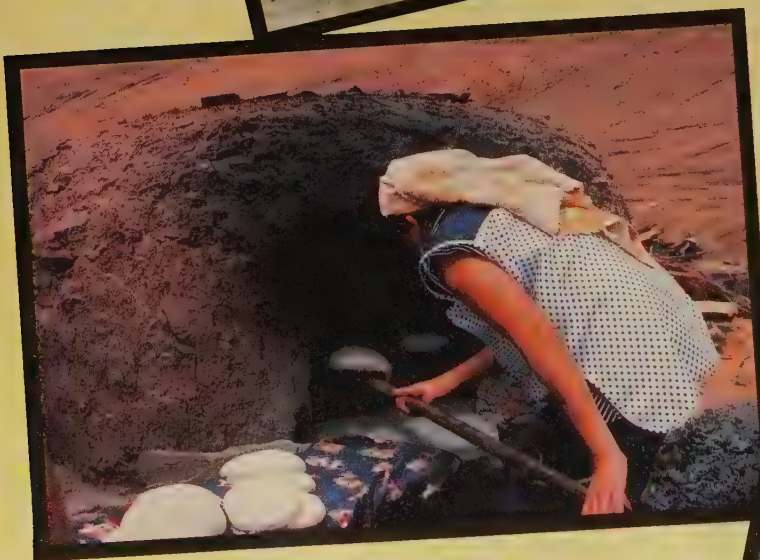
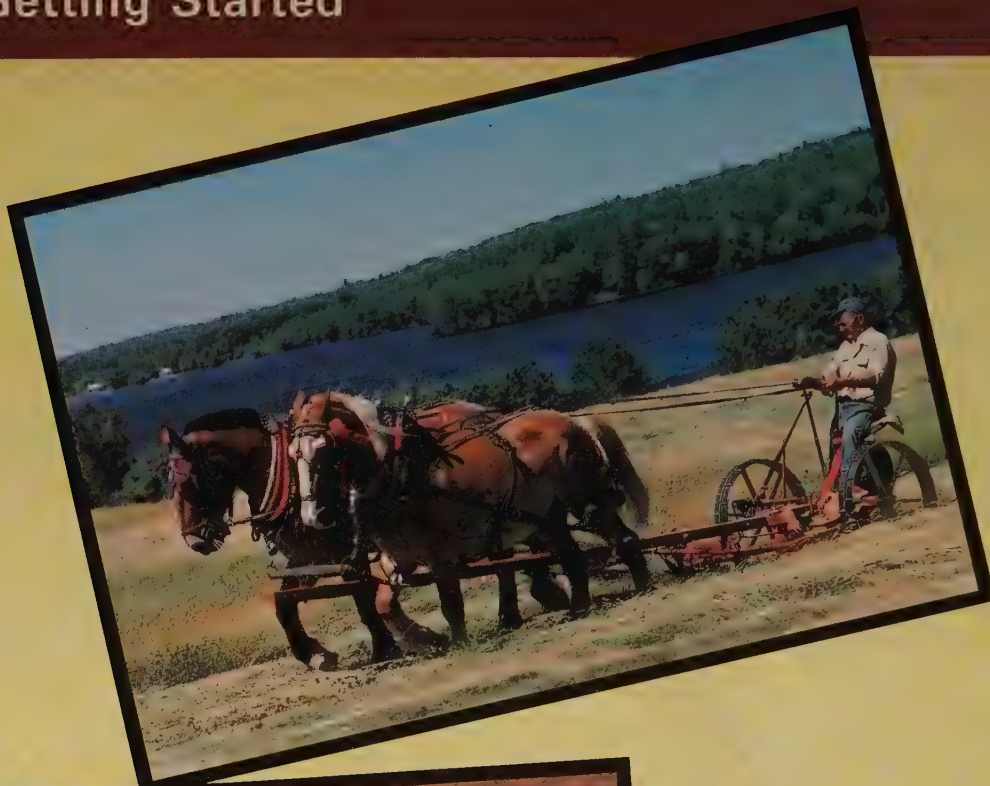
### Side Orders

Soup.....	.95
Salad.....	1.25
Codfish Cake .....	2.00
Fishstick.....	1.00
Lemonade.....	1.50
Milk.....	1.00

### Dinner À la Carte

Tuna Surprise .....	3.50	2.50
Codfish Cakes .....	4.95	3.95
Broiled Trout.....	5.95	4.95

All dinners include soup or salad, potatoes, and beverage.





# With Yesterday's Skills

Many jobs today are done very differently than they once were. One hundred years ago, horses pulled plows. Now, of course, tractors do. Butter was churned by hand. Now factory machines churn it. Clerks in stores added sales prices on pads of paper. Now cash registers, adding machines, or computers do the adding.

Yet there are still some people who do jobs in exactly the same way they have been done for years and years. And they do their jobs proudly, using the skills that have been handed down through time. You are about to meet some of those people.





cutting the block



inking



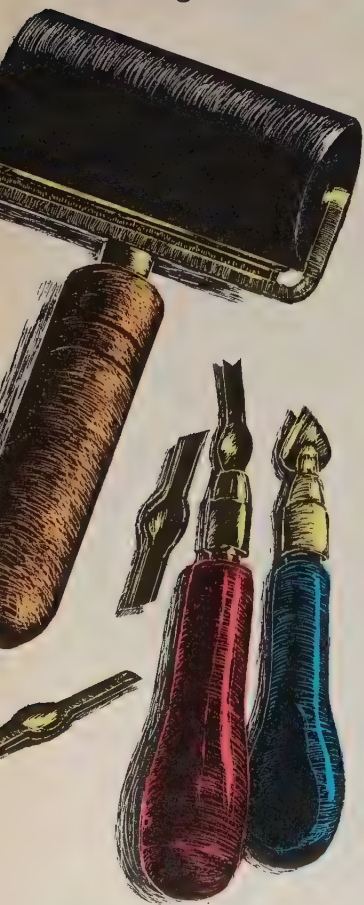
printing

## Following Steps in a Process

The artist in the pictures is making a woodcut, a picture made from a block of wood. What steps does the artist follow to make her picture? What does she do first? next? last?

### *Sharpen Your Skills*

By looking at the pictures on this page, you are able to see some of the steps an artist follows in making a woodcut. You will often read articles that give directions for making something. To understand these articles, you must follow the steps in order.



The following tips will help you follow steps in a process:

- Picture what the finished product will look like. Keep this in mind as you read.
- Look for clue words like *first*, *next*, *during*, *after*, and *last*. They will help you follow the order of the steps. But remember that clue words are not always given.
- Keep track of the steps. Sometimes it helps to take notes and number the steps as you read.

Use the tips as you read the following article to find out more about making a woodcut. Notice how the picture is printed.

Artists have been using woodcuts to print pictures on paper since the 1400s. To begin making a woodcut, an artist first gets a pine block. The artist uses sharp tools to cut away parts of the wood. The parts that were not cut will form the picture. After the wood is cut, the artist coats the block with ink. Then he or she puts a piece of paper over the block. The artist rubs the back of a spoon or some other tool over the paper. Finally, the paper is pulled away from the block. A picture has been printed onto the paper. Now the woodcut is finished.



1. Which does the artist do first—cut the wood or coat the block with ink? What clue words helped you answer the question?
2. What does the artist do when the paper has been put over the block?

The artist cuts the wood before coating the block with ink. The words *After the wood is cut* should have helped you answer the first question. When the paper is on the block, the artist rubs the back of a spoon or other tool over it. In this case, there is no clue word, but the order of sentences on page 75 should have helped you follow the steps.

Now reread the paragraph about woodcutting to find answers to the following questions.

3. What is the last step in making a woodcut? What clue word helped you answer?
4. Put the six steps of woodcut printing in order.
  - a. Cut wood.
  - b. Put paper over cut wood.
  - c. Pull paper away.
  - d. Get pine block.
  - e. Coat wood with ink.
  - f. Rub back of spoon over paper.

Use the tips on page 75 to help you follow the steps of shoeing a horse and baking bread in the next two selections.

# SHOEING A HORSE



by Jack and Patricia Demuth

*Hannon is the name of a horse who works for the Mounted Police in New York City. On most days, Hannon is out working. But once every four weeks, he stays in the stable to get new shoes.*

Henry Nixon, the gentle blacksmith who has been working around horses for forty years, leads Hannon to his shop on the ground floor of the stable. The forge, a blacksmith's oven, hisses with fire as they enter.

Horses need shoes to cover the hornlike walls at the bottom of their feet. The wall is the part of the hoof you see when the foot is on the ground. If you lift a horse's foot and



look at the bottom, you will see that the wall reaches around the edge of the foot in a U shape. A horseshoe is made to fit this shape. In the center, the foot is raised, like an upside-down saucer.

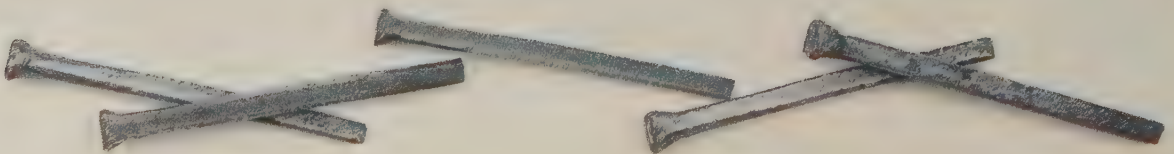
The shoe fits over Hannon's U-shaped hoof. Nailing on the shoe does not hurt Hannon.



Henry crouches, picks up Hannon's huge hind leg, and then rests it on his thigh. He pulls off the old shoe with pliers. Then he trims the wall with a knife. Hannon doesn't seem to mind. He stares off into space. Like the nails on our fingers and toes, the wall of Hannon's foot has no feeling.

When the trimming is over, Henry files the bottom of the wall to make it smooth. Then he picks up a horseshoe. (Hannon needs size one.) Using tongs, Henry places the horseshoe into the middle of the angry flames. The shoe is black when it goes in, but in one minute the horseshoe is glowing red and soft enough to be shaped to fit Hannon's foot exactly.

Henry pounds the shoe on the anvil to make it flat. Sparks fly. Then sticking a pick through one of the nail holes, Henry places the shoe on Hannon's foot to check the fit. Smoke pours out. The wall is so thick, however, that Hannon doesn't feel a thing and he doesn't move.







Henry pounds the shoe on the anvil.



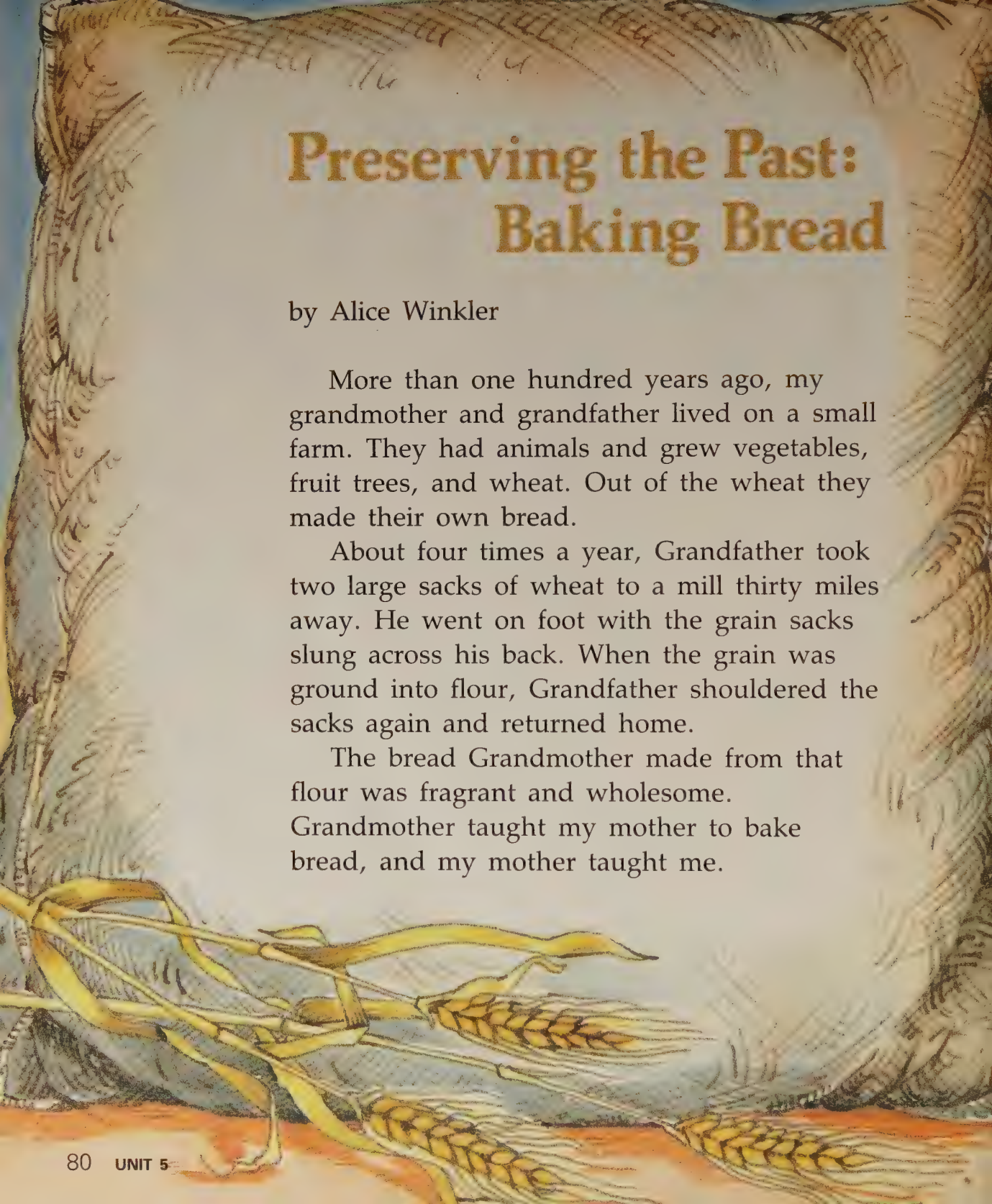
Henry may pound the shoe again if it needs to be made narrower or wider. Then he dips it, now black, into a bucket of water to cool it. The shoe sizzles as it goes in.

“Around here, you don’t pick up anything unless you know it’s cold,” warns Henry.

“Black heat can be more dangerous than red because you don’t see it. You can pick up something hot and it sticks to your hand.”

Finally Henry puts the cool shoe in place and pounds four-inch nails through the holes right into the wall of Hannon’s foot. He can tell by the sound if a nail is going in correctly. An inexperienced blacksmith can lame a horse by driving the nail into or near the tender part of the foot.

The shoeing is done when Henry cuts off the end of each nail and twists the end over to bury the sharp point. It’s a fine job.



# Preserving the Past: Baking Bread

by Alice Winkler

More than one hundred years ago, my grandmother and grandfather lived on a small farm. They had animals and grew vegetables, fruit trees, and wheat. Out of the wheat they made their own bread.

About four times a year, Grandfather took two large sacks of wheat to a mill thirty miles away. He went on foot with the grain sacks slung across his back. When the grain was ground into flour, Grandfather shouldered the sacks again and returned home.

The bread Grandmother made from that flour was fragrant and wholesome. Grandmother taught my mother to bake bread, and my mother taught me.



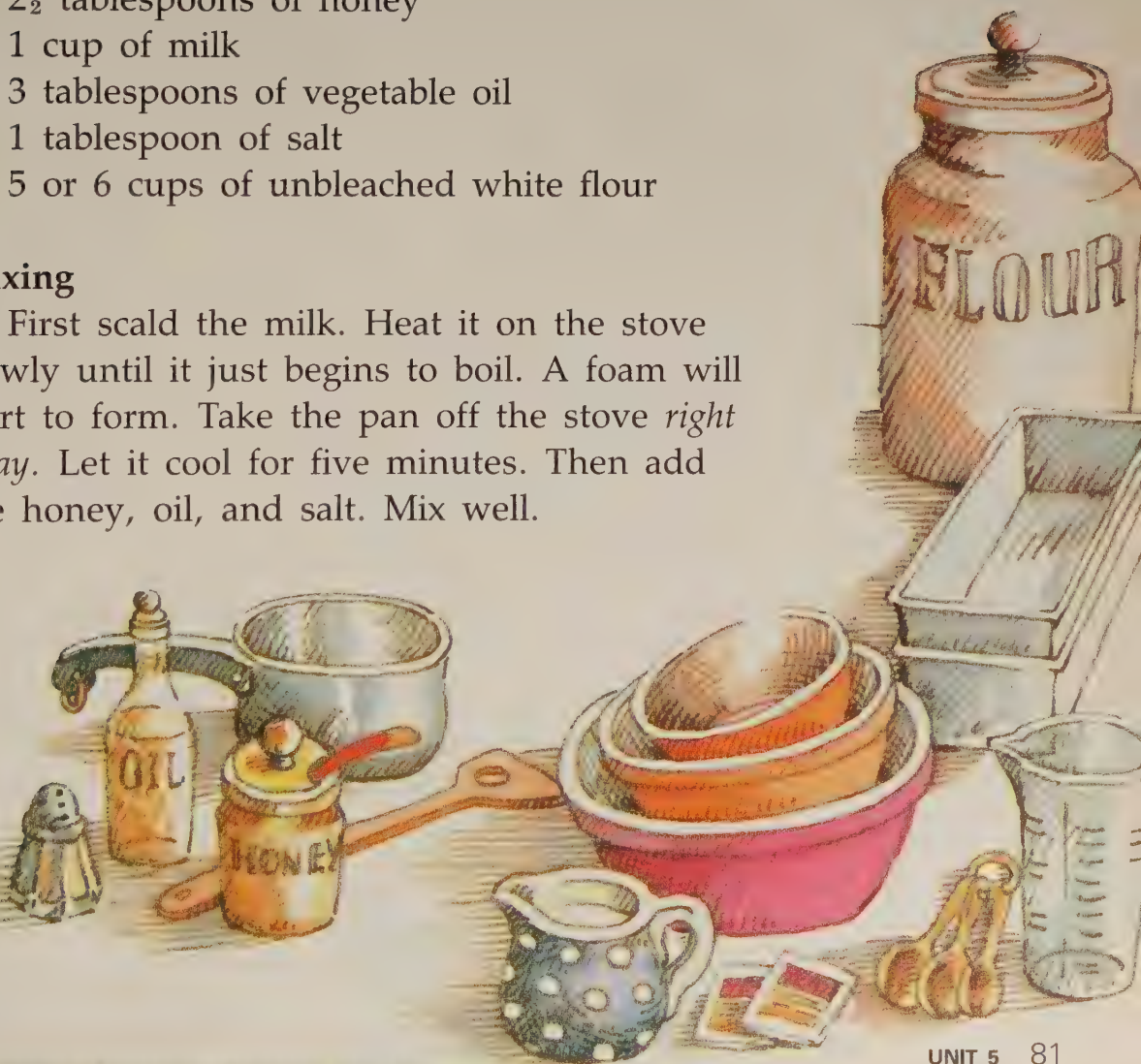
## The Recipe

This recipe is for white bread. Before you start to bake, set out one saucepan, two bread pans, three bowls, and some measuring cups and spoons. You will need these ingredients.

- 2 packages of dry yeast
- 1 cup of very warm water  
(You will use  $\frac{1}{2}$  cup at a time)
- $2\frac{1}{2}$  tablespoons of honey
- 1 cup of milk
- 3 tablespoons of vegetable oil
- 1 tablespoon of salt
- 5 or 6 cups of unbleached white flour

## Mixing

First scald the milk. Heat it on the stove slowly until it just begins to boil. A foam will start to form. Take the pan off the stove *right away*. Let it cool for five minutes. Then add the honey, oil, and salt. Mix well.





Next empty the packages of yeast into a large bowl. Add  $\frac{1}{2}$  cup of warm water. Do not stir. Let it sit for five minutes. The yeast will dissolve. Add the milk mixture and the second half-cup of warm water. Mix well.

Add the flour, cup by cup. Beat well. After three cups of flour have been added, the bread will resemble thick glue. Add two more cups of flour. The dough will be so thick that it will not be possible to mix unless you use your hands. Now the dough is ready for **kneading**.

### Kneading

Flatten the dough by punching it with your fists. This is called **fist kneading**. When the dough is a flat circle, flip one side over the other to make a half circle. Pound it flat again. Then flip it into a half circle again.

Now try **hand-heel** kneading. Push the dough flat with your hands. Each time you push, roll the edge of the bread nearest you over the top. Knead, pound, and punch the dough for about ten minutes. Now it is ready to **rise**.



## **Rising**

Rub oil over the inside of a large, clean bowl. Oil your hands too. Shape the dough into a ball and oil the outside. Put it into the bowl and cover it. Then let it sit in a warm place for two hours. It will double in size. Do this two times. The second time it should be double the size in about an hour.

Punch the dough down again. Take it out of the bowl. Cut it into two halves. Shape each half into a long roll. Place each roll into an oiled bread pan. Oil the top of each roll, or loaf. Let it rise until it is double in size.

## **Baking**

Heat your oven to 375°. Then put the bread in on a middle rack. Your bread will be baked in about forty-five minutes. Take it out, let it cool, slice and butter it, and taste your own fresh bread.

You have learned how to do something that even your mother may not know how to do. Perhaps you and your mother can learn how to bake bread together. If you do, you will be working at a very ancient and enjoyable craft.

## Checking Comprehension and Skills

1. Why does Hannon, a police horse, get one day off every four weeks? (77)
- 2. Arrange in order the following steps in shoeing Hannon.
  - a. Henry fits the shoe to Hannon's foot.
  - b. Henry removes the old shoe.
  - c. Henry nails the shoe to Hannon's foot.
  - d. The shoe is cooled in water.
3. From whom did Alice Winkler learn to bake bread? (80)
- 4. Arrange in order the following steps in baking bread.
  - a. Punch the dough down.
  - b. Knead the dough for ten minutes.
  - c. Let the dough rise.
  - d. Mix together all ingredients.
5. How are Henry and Alice alike?

Read the sentences below. Which response shows how each underlined word should be divided into syllables?

- 6. The dough will resemble thick glue.  
res•em•ble      re•semb•le      re•sem•ble
- 7. Baking bread is an enjoyable craft.  
enj•oy•a•ble      en•joy•a•ble      en•joy•ab•le

- Sequence: Steps in a process
- Structure: Syllables



## Making a Patchwork Quilt

JUST FOR YOU  
.....

In days gone by, making a patchwork quilt gave people a chance to get together and share their skills. Your class can make a quilt, too—a patchwork of your ideas. Here's how.

Each person in your class should find a piece of plain cloth and cut out a "square" the same size as a sheet of writing paper. Next you should draw or sew a picture on the square. You may want to draw a picture of your school, of a place your class has visited, or of yourself.

When all of you have finished, arrange the squares on a large piece of backing, such as a bed sheet. Leave space between the pictures for the backing to show through. Sew or glue the squares on the backing. As a final touch, you can also put glue in the space between the squares and lay wide strips of colorful ribbon over the glue.

Hang your quilt in your classroom with pride.









## When Old Meets New

There are places on earth where people and animals live in ways that have not changed for hundreds of years. Yet modern life often creeps into their world and puts their ways of life in danger.

People who care about animals have set aside preserves and parks so the animals can continue to live in age-old patterns. But what about people whose ways of life are threatened by the modern world?

Sometimes special efforts are made to protect people from change that would destroy their old ways as well as the untouched world in which they live.



# Everglades National Park



Everglades National Park is land set aside for an important reason. It is the only national park ever established just to protect wild animals and plants.

The park covers fifteen hundred square miles. It lies inside a larger part of southern Florida known as the Everglades. Its forests and swamps are home for all sorts of animals such as alligators, deer, and wild hogs. Birds such as eagles, wild turkeys, and snail kites also find safety here.

The park looks and sounds much as it has for hundreds of years.

Many kinds of birds—white-tailed pigeons, short-tailed hawks, and herons—fly overhead. By a pond's edge a huge turtle digs holes in the sand. Here she will lay her eggs. Otters play and splash in the water. Nearby an alligator sticks his head above the surface and looks around.

Not far from the edge of the park, the roar of city life can be heard. But the animals and plants that live in Everglades National Park are not touched by modern life. They live in a world where only Nature rules.

### ***Sharpen Your Skills***

A map can help you clearly locate a place you read about in an article. Some maps, like the one in this lesson, are shaded to call attention to certain places within an area.

1. Is Everglades National Park
  - a. north or south of Georgia?
  - b. east or west of Miami?
2. Is Everglades National Park larger or smaller than the Everglades?

Use the map in the next article to find the home of a people called the Tasaday.

# Lobo of the Tasaday

by John Nance

## The Tasaday

On a rugged island in the Philippines live a people who call themselves the **Tasaday**. They have lived there as far back as anyone can remember. Until a short time ago, the Tasaday thought that they and their friends were the only people on earth.

Lobo is one of the Tasaday. When the pictures in this story were taken, in the early 1970s, he was about ten years old.

At that time, there were twenty-six Tasaday. They lived in three caves high on the side of a mountain. The caves were used for sleeping and for shelter from the rain.

**Tasaday**, *Ta* means "people" in their language, and *saday* is the word for their home in the mountains.

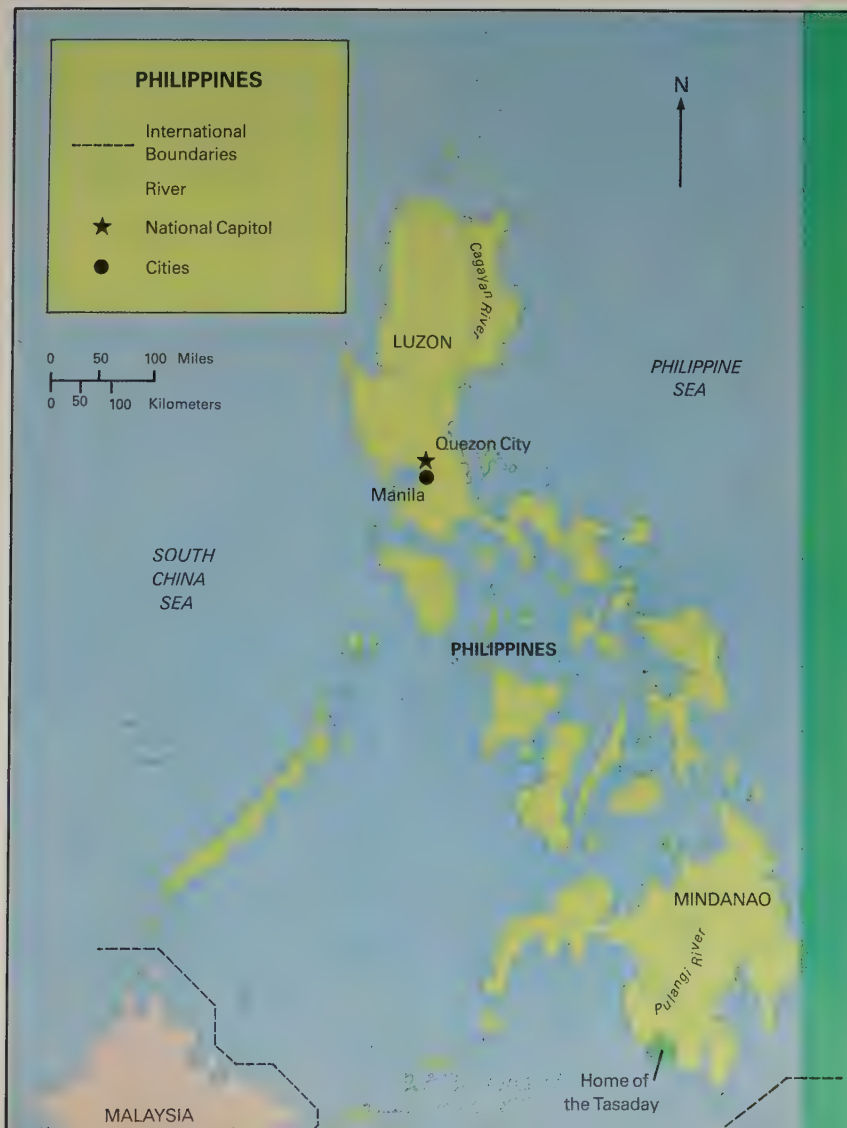


Lobo, boy of  
the Tasaday



## The Rain Forest

When the weather was good, the Tasaday went into the rain forest to look for food. The Tasaday gathered fruit, nuts, and berries. A favorite food was **biking**, the root of a plant. There was also food in the nearby stream: fish, crabs, tadpoles, and frogs.





The rain forest of the Tasaday

The children rolled leaves into cones to carry the food. Then it was taken back to the caves, to be divided among all the Tasaday.

The Tasaday believed that the forest had been made just for them to live in and take care of. When gathering food, they were careful not to destroy the plants, so they could blossom again.

The Tasaday knew of only two other groups of people in the forest, and did not see them often. Still, these people were considered friends. The Tasaday language had no words for "enemy" or "war."

## Life in the Rain Forest

The Tasaday usually spent only a few hours each day working. The stream, important for food and drink, was also a place to play. Lobo enjoyed leaping from rock to rock in the stream. Lobo also liked to climb trees and swing from the branches. Most of all, he liked swinging on a long vine.

Sometimes the children had to look after their younger brothers and sisters, because the Tasaday believed that people should help one another. Lobo's father said that this was one of the most important rules of life in the world.

To the Tasaday, the forest *was* the world. They had never been outside of it. They didn't know that there was an "outside."

Until the stranger came.



Lobo swings on vine



Tasaday playing  
in stream





The stranger, Dafal

## The Stranger Comes

*One day a strange man, Dafal, appeared and made friends with the Tasaday. He persuaded them to come with him to the edge of the rain forest to meet a powerful man. The Tasaday agreed to go because they remembered a legend about a good man who would come some day and bring them good fortune.*

The next morning all twenty-six Tasaday left their caves and followed Dafal. At first they traveled on trails they knew. Then they crossed strange mountains, and the jungle began to look different.

When they neared the meeting place, Lobo hurried forward to be close behind Dafal. Soon he found himself at the top of a hill. He looked beyond the summit.

Sweeping down and away from the hilltop was an empty plain that stretched as far as Lobo could see. The Tasaday had reached the end of the rain forest. To Lobo it looked like the end of the world.

Another stranger  
greeting the  
Tasaday



### Another Stranger

Soon Dafal began to point into the sky, shouting, "There he is! There he is!" The Tasaday saw a tiny dot in the sky, like a bird flying. Then as they watched, it grew larger and became a gigantic creature hanging over them. Its shrill scream hurt their ears and its breath felt like hot wind.

The monster came down, and suddenly its screaming stopped. A hole opened in its side, and a man climbed out.

He looked odd and frightening to the Tasaday. On his head sat . . . what? A large mushroom? He had shiny black eyes like a frog's. As they watched, he put his arm around some of the Tasaday in greeting. Then he stepped back and pulled off his black eyes!

Lobo felt so frightened that he had to sit down. The man came and put a hand on his trembling shoulder.

## New Adventures

Over the next few days, the man and the “bird” brought many new things. The Tasaday were astounded by some of the things the stranger brought. There were silver sticks that produced light, tiny twigs that made fire, and one-eyed black boxes.

Later Lobo went inside the huge bird. He, his father, and some of their friends even went up in the sky in the big bird.

Below him Lobo could see the dark green forest and the tiny figures of people. They looked so small, and the world looked so large. The Tasaday’s forest was only a part of a much bigger place which stretched farther than he could see.

It seemed to Lobo that the good man of the legend had really come. Lobo’s life and the way he looked at the world would never be the same.



Lobo in the big bird

*The man who came in the “bird” was Manuel Elizalde, a government officer. He did help the Tasaday. He arranged for 46,000 acres of the forest to be set aside for the Tasaday. In December, 1980, it was reported that the Tasaday were doing well, and that Lobo had grown into a strong and healthy young man.*



## ***Checking Comprehension and Skills***

1. Who is Lobo of the Tasaday? (90)
- 2. Look at the map on page 91 to help you answer the following questions.
  - a. On what island of the Philippines do the Tasaday live?
  - b. What country is west of the island where the Tasaday live?
3. Why did the Tasaday think the rain forest was the whole world?
4. Why did the Tasaday go with the stranger to the edge of the rain forest? (94)
5. Why would Lobo's life and the way he looked at the world never be the same after the stranger came?
6. Would you like to live with Lobo among the Tasaday? Why or why not?

Figure out the meaning of each underlined word. Then tell what way (or ways) best helped you: context and consonants, root words and affixes, syllabication.

- 7. The Tasaday consider other people living in the rain forest their friends.
- 8. The "bird" was a gigantic creature hanging over them.

- Graphic Aids: Maps
- Word Study Strategies

## I Can See It!

As you read this story, try to picture the blacksmith's shop in your mind.

The fire in Henry's shop is glowing. He pounds a red-hot horseshoe on the anvil. When the shoe is shaped, he cools it in water. Then he hammers it to the horse's foot and files the edges smooth.



How would you describe Henry's shop? Think about the pictures in your mind. The shop is hot and steamy, and there is a bright fire. It is also noisy with the clanking and pounding sounds of the hammer and anvil. Picturing the shop can make you feel as if you are really there.

You will get more out of the stories and articles you read if you try to "see" the things that are described in them. As you read other selections in this book, picture the people, places, and things. Make the pictures so clear that you can say to yourself, "I can see it!"

## Section Three

*Living by Your*

**WITS**



How can someone small outsmart a big bully? 100–111  
Danger! Who can escape it? 112–127  
How will Tom Sawyer avoid doing his chores? 128–138







Imagine a giant—a big, strong giant who happens to be a bully. What hope does a little person have against such a giant?

*Wits*: they help even the smallest person come out ahead. Wits are people's thinking power. Wits help people think up tricks and make up plans. Yes, wits can tumble even the biggest of giants—as you shall soon see.



## The GIANT and the Lad

Long ago, a terrible giant named Thorps lived in England. Not only was he big and ugly; he bragged a lot too.

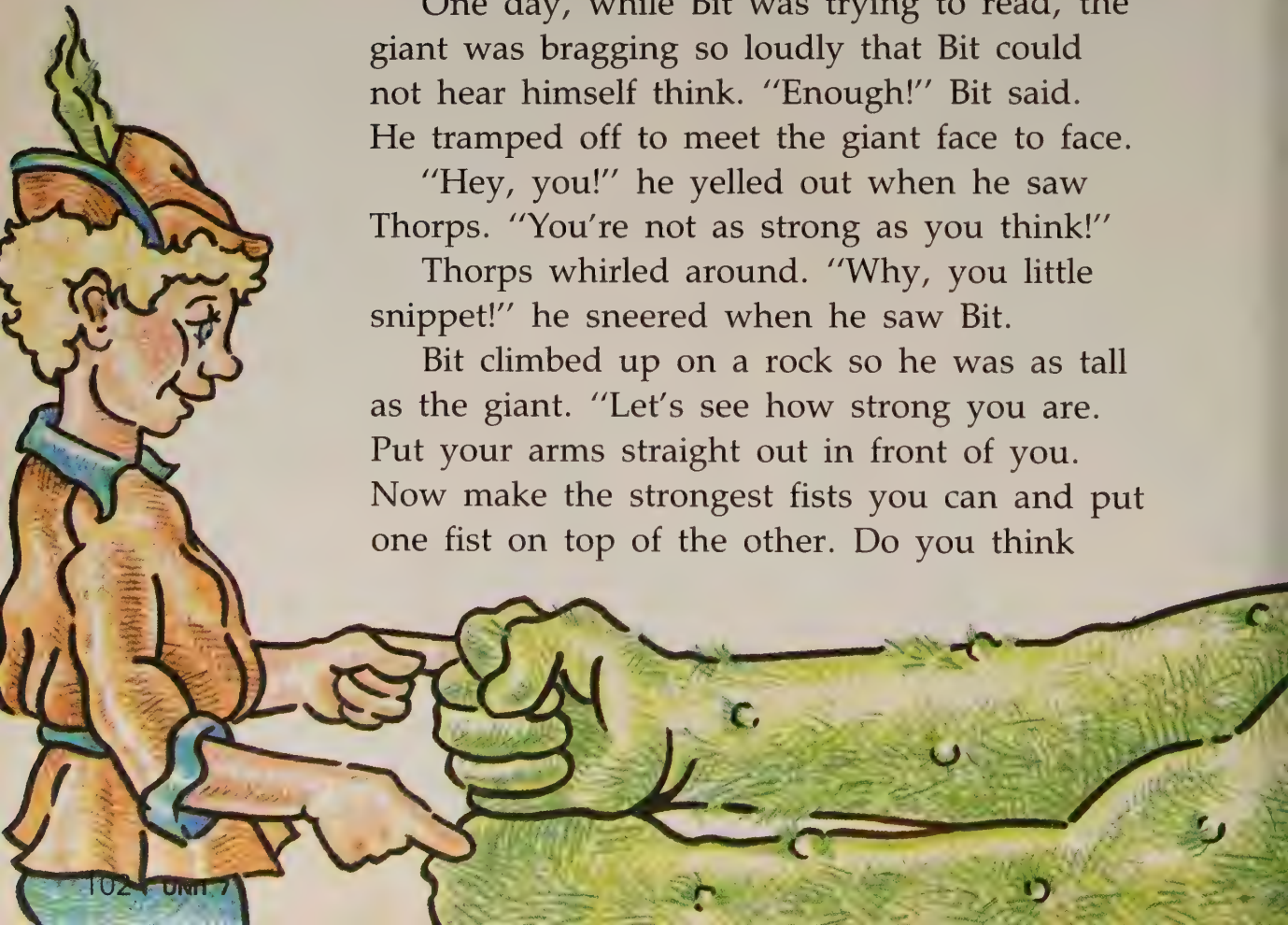
There also lived nearby a tiny boy called Bit. Bit just loved to read. And he just hated doing his heavy farm chores.

One day, while Bit was trying to read, the giant was bragging so loudly that Bit could not hear himself think. "Enough!" Bit said. He tramped off to meet the giant face to face.

"Hey, you!" he yelled out when he saw Thorps. "You're not as strong as you think!"

Thorps whirled around. "Why, you little snippet!" he sneered when he saw Bit.

Bit climbed up on a rock so he was as tall as the giant. "Let's see how strong you are. Put your arms straight out in front of you. Now make the strongest fists you can and put one fist on top of the other. Do you think





you can hold your arms so tightly in place that I can't move them with two fingers?"

"You couldn't move my strong arms with two elephants!" the giant bellowed.

Bit pushed his fingers on the back of each fist and easily moved Thorps's arms sideways.

Thorps gasped. "How did you *do* that?"

"Easy," said Bit. "I knew you'd put all your power up and down, making it easy for me to move your arms sideways."

Bit told Thorps other tricks and facts. Thorps told Bit he had only boasted because he was lonely and needed to entertain himself. From then on, Bit taught his friend Thorps tricks. And Thorps did all Bit's chores.

### ***Sharpen Your Skills***

**Characters** in a story have thoughts, feelings, and desires that usually explain why they act as they do.

1. Do you think Thorps is a bully? What does he do or say to make you think so?
2. How would you describe Bit to someone who doesn't know him? What does he do or say to make you think of him that way?

Read the next story about Oonagh. Would you rather have her as a friend or a foe?

# OONAGH AND THE GIANT

by Toni McCarty



Oonagh's<sup>1</sup> husband was a giant, a famous Irish giant. His name was Finn McCoul. Big and overpowering as he was, there was another stronger than Finn. That was Cucullin.<sup>2</sup> Yes, Cucullin was truly a *giant* of a giant, and even Finn was scared of him.

One day, Cucullin decided to fight with Finn. When Finn heard he was coming, he groaned. "What hope is there? Cucullin will flatten me for sure. Woe is me, poor Finn!"

---

1. Oonagh (ü'nə)      2. Cucullin (kü kul'en)

"Now, hold on, husband," said his wife. "Leave it to Oonagh. Old Cucullin will never lay a finger on ye."

"Don't even *speak* of his finger," Finn cried. "All of his strength lies in the little finger of his right hand."

"And a nice fact that is to know," Oonagh answered.

When Finn heard Oonagh talking so sure, he felt a bit of underlying hope. Oonagh had set things right before.

"I'll be off to the neighbors," Oonagh said to her husband. "Ye just sit tight." She kissed him and left.

When Oonagh returned, she was carrying all the iron griddles she could hold. She set to work making a pile of dough which she rolled into round cakes. Inside each cake, Oonagh hid a griddle. Only one cake did she bake in the proper way, with no pan inside it; and she set that cake apart from the rest.

"Now, Finn, put on this bonnet. Ah, it only sits on the top of your head, but it gives you a look of sweetness now, doesn't it! And wrap this lace around ye like a baby's little gown. That's it. Now climb into the cradle, dear."



Finn just stood there. "Our children are all grown up now, Oonagh. Must I play being my own baby?"

But Oonagh was busily boiling up cabbage. "No time to disagree," she called to him. Finn climbed into the cradle and kept quiet.

Suddenly there was a pounding on the door that shook the house. "Is that Finn McCoul in there?" roared Cucullin.

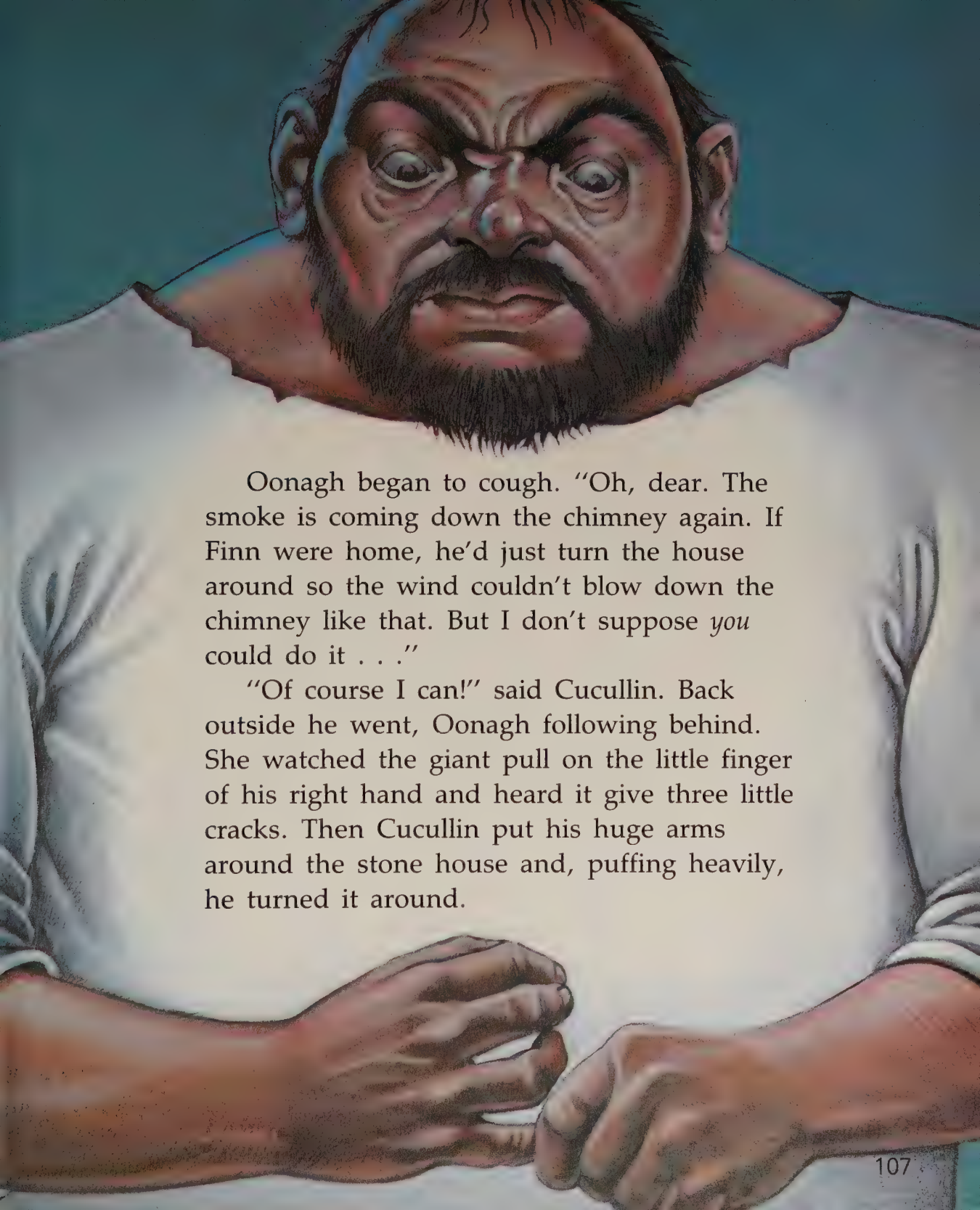
Oonagh opened the door. "Finn's not in. He's out and about. But come on in, mighty man," she said.

Oonagh looked the giant over. Cucullin was a mountain of a man, to be sure, but not as great as her own wits.

Cucullin was twice as big as Finn, so he had to duck his head to get inside. "I've come to fight Finn, I'll be telling ye the truth," he said.

"Sit yourself down if ye wish. He's out looking for ye, if you are Cucullin. What a terrible temper my Finn is in. I'm afraid he'll make a mess of you, poor miserable man. A powerful giant is Finn McCoul!"

"Ha! We'll see about that," Cucullin laughed.



Oonagh began to cough. "Oh, dear. The smoke is coming down the chimney again. If Finn were home, he'd just turn the house around so the wind couldn't blow down the chimney like that. But I don't suppose *you* could do it . . ."

"Of course I can!" said Cucullin. Back outside he went, Oonagh following behind. She watched the giant pull on the little finger of his right hand and heard it give three little cracks. Then Cucullin put his huge arms around the stone house and, puffing heavily, he turned it around.

In the house, Finn was overcome with fear and he shuddered wildly.

"Now that you've been so kind," said Oonagh, "I'd like to fix your last meal for ye. It will take awhile, I'm sorry to say, for I need to go for water down the hill. Ah, yes, today Finn was going to tear open our mountain, out behind the house, so we'd not have so far to go for water. But then, that's a job only Finn has the ability to do. Don't trouble yourself thinking ye should try."

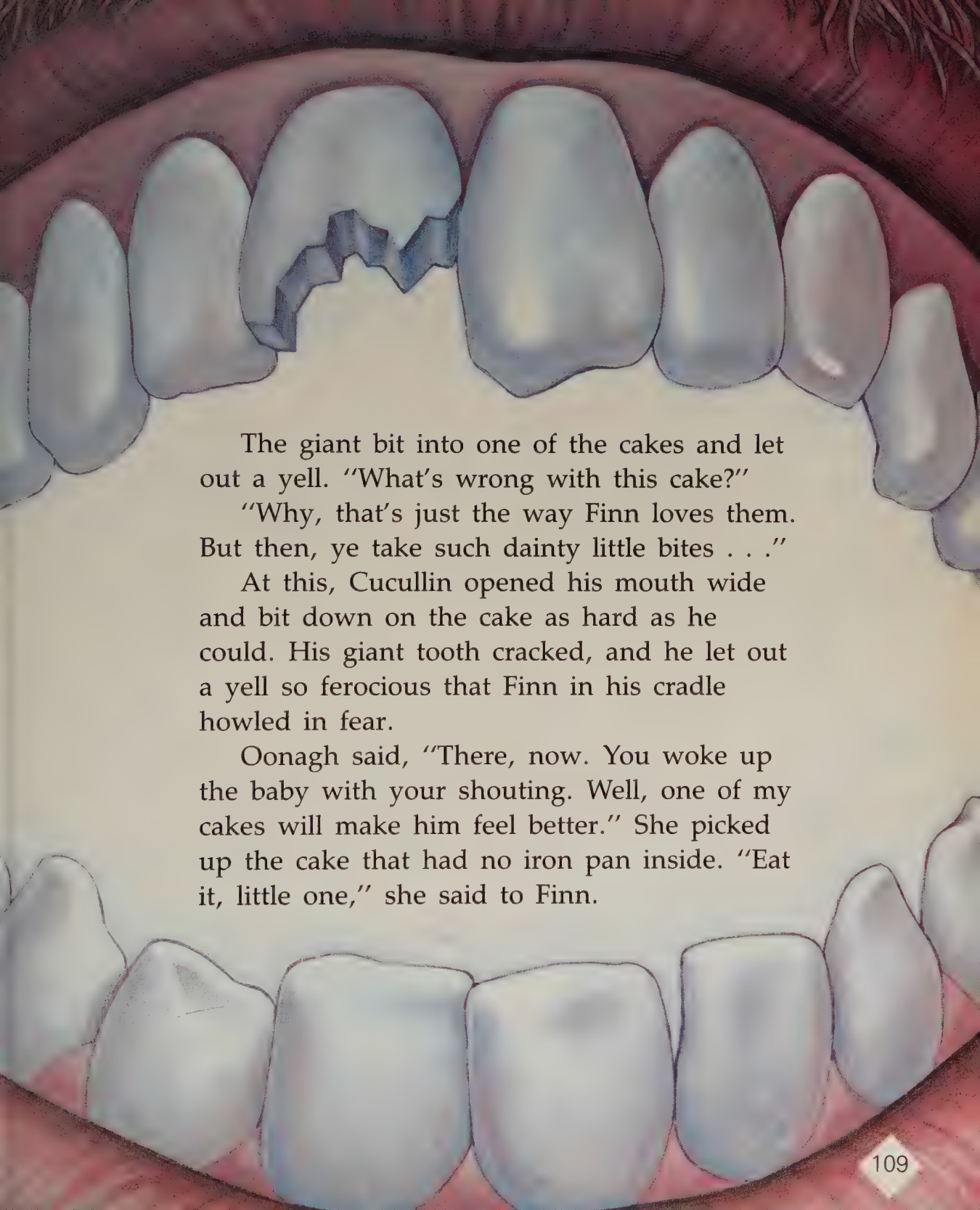
"Try?" roared Cucullin. "Anything Cucullin tries he can do!" said the giant. But he was beginning to wonder about this Finn. Tearing apart a mountain made of hard rock was no small accomplishment, even for Cucullin.

Once, twice, three times Cucullin pulled on his little finger, cracking it nine times in all. Then he dug his big hands into the rock and pulled with all his might. *Crack! Crumble!* The mountain split wide open for a quarter of a mile, and the water ran free.

When Cucullin came back in the house, he was beginning to worry about meeting up with Finn. These house chores that Finn did were almost too much for Cucullin himself.

"Now, sit yourself down and eat up," said Oonagh. She dished up a bowl of cabbage and piled the griddle cakes in front of Cucullin.



The illustration shows a close-up of a giant's mouth, with large, white, pointed teeth and a pinkish-red tongue. The mouth is open, and the text is centered within it.

The giant bit into one of the cakes and let out a yell. "What's wrong with this cake?"

"Why, that's just the way Finn loves them. But then, ye take such dainty little bites . . ."

At this, Cucullin opened his mouth wide and bit down on the cake as hard as he could. His giant tooth cracked, and he let out a yell so ferocious that Finn in his cradle howled in fear.

Oonagh said, "There, now. You woke up the baby with your shouting. Well, one of my cakes will make him feel better." She picked up the cake that had no iron pan inside. "Eat it, little one," she said to Finn.

Cucullin could hardly believe his eyes when he saw the oversized baby in the cradle. The baby gobbled the cake as if it were made of air.

"Is it special teeth this Finn family has?" asked Cucullin.

"Come see for yourself," said Oonagh. "They're way back in his mouth, so best ye feel with your finger. Oonagh grabbed Cucullin's little finger and stuck it deep into Finn's mouth. *Chomp!* Finn bit down with all his strength, and broke Cucullin's magic finger.

Now Finn felt brave as could be. Up he jumped and chased Cucullin out of the house and down the mountain, roaring like a bull all the way.

Oonagh watched him proudly as he ran. "Now doesn't he look sweet in that bonnet!" she said.



## *Checking Comprehension and Skills*

1. Why was Finn afraid of Cucullin? (104)
2. What did Oonagh want to do? (105)
- 3. Why did Oonagh put griddles in all the cakes but one? (105, 109)
4. What chores did Cucullin do? (107–108)
- 5. Why do you think Cucullin wanted to do the chores?
6. Why did Cucullin lose his strength? (110)
- 7. Did Oonagh use physical strength or the strength of wits to tumble a giant? What does this tell you about her?
8. Did Oonagh succeed in outwitting Cucullin? How do you know? (110)
9. Would you rather have Oonagh as a friend or a foe? Why do you think as you do?

Read the sentences below and notice each underlined word. Identify the root word and the prefix or suffix. Tell what each underlined word means.

- 10. Cucullin could hardly believe his eyes when he saw the oversized baby.
- 11. Tearing apart a mountain was no small accomplishment, even for Cucullin.

- Story Elements: Character
  - Structure: Prefixes and Suffixes







## To Think of a Plan

Do you remember the third little pig who outwitted the wolf? Remember how Hansel and Gretel tricked the mean witch, and how Jack got away from the giant by cutting down the beanstalk? In all these stories, the heroes are in grave danger. And in all of them, the heroes think of clever plans. They use their wits to escape.

Soon you will meet some characters who use their heads. It's a good thing they do, for each one is caught in the arms of danger. Thinking of a plan is the only way out.



# Using What You Know

You know many ways to use your wits. You also know many ways to figure out new words.

## *Sharpen Your Skills*

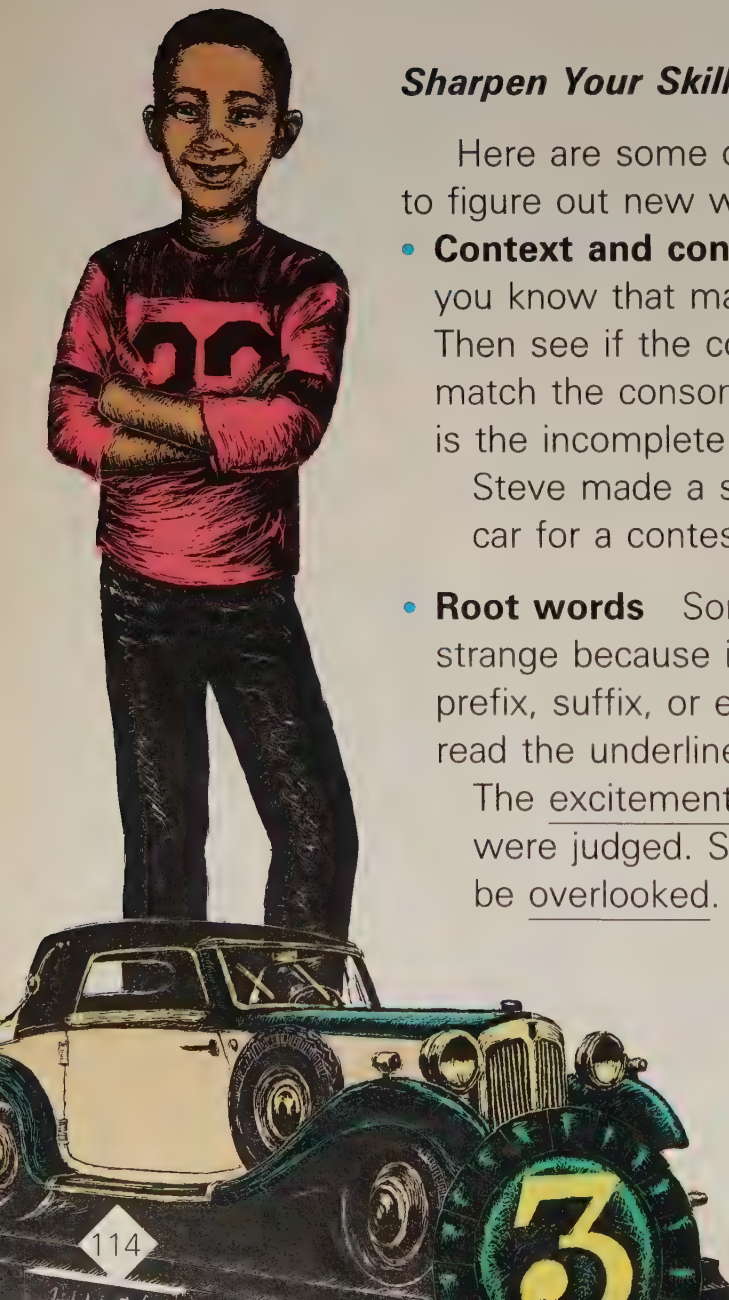
Here are some of the ways you've learned to figure out new words.

- **Context and consonants** Think of a word you know that makes sense in the sentence. Then see if the consonants in your word match the consonants in the new word. What is the incomplete word below?

Steve made a small **m\_d\_l** of an antique car for a contest at school.

- **Root words** Sometimes a word may look strange because it is a root word with a prefix, suffix, or ending added to it. Can you read the underlined words below?

The excitement grew when the models were judged. Steve hoped his car wouldn't be overlooked.





- **Syllables and vowels** Another way you know to figure out a word is to break it into syllables, figure out the parts, and put the parts together again. Where do you break the underlined words below? What is the vowel sound in the first syllable of each underlined word?

Steve wondered silently if he would win anything at all. Then he saw a third-place ribbon on his car. Third place wasn't terrible at all! He couldn't wait for his vacation so he could build more models.

Use one or more of these ways to figure out the underlined words below.

I was driving on a lonely road when suddenly a snowstorm hit. My car broke down and it was impossible to start it. I had to keep my wits. I grabbed my flashlight. When a car appeared, I waved the flashlight to show my location. It was the police! They took me to safety. I had outwitted the storm.

Remember to use what you know about words as you read the next selections about people who use their wits.

# Lion Outwitted by Hare

a Bantu tale retold by Phyllis Savory

One day Silwana, the mighty lion, ran into a cave to escape a heavy shower of rain. As he shook the water from his ears, he looked around. There in a corner, trying to hide, stood the crafty hare named Vundhla! Now Vundhla had made a fool of the lion in the past, causing the proud lion to hate him.

The lion licked his lips and said, "Well, Vundhla, I have got you where I want you at last! You will taste good for my breakfast."

Suddenly thunder shook the earth, and Vundhla jumped across the cave to a place where the roof was low. There he pretended to hold up the rock above his head. "The cave is falling in!" he shouted. "Come! Help me hold up the roof or we will both be crushed!"

In one bound, Silwana reached the spot and placed his big paws against the roof. Together the pair pushed upward with all their might. After a time the hare said, "Great one, my arms are thinner than yours and not so strong. Let me collect some rocks to build a support for the roof. Then we can both sit

down and rest our arms. Please hold up the roof while I get some rocks.” And he ran out.

A long time passed, and Vundhla still did not return with the stones. Silwana stopped pushing against the roof and jumped far backward, beyond the door of the cave. Nothing happened. The roof stayed up. Silwana knew he had been tricked again.

Soon the lion heard laughter coming from deep inside a hole. “Great one,” the hare shouted, “what are you having for breakfast?”


### ***Sharpen Your Skills***

What you can learn from a story is called the **theme** of a story. Often thinking about how the main character achieves his goal will help you decide the theme.

1. What is Vundhla’s goal? How does he reach it?
2. What can you learn from the story about Vundhla?
  - a. The mighty lion didn’t get what he wanted for breakfast.
  - b. You may be able to escape danger if you think quickly and wisely.

Decide what the theme is in each of the following stories about people in danger.





# Wiley and the Hairy Man

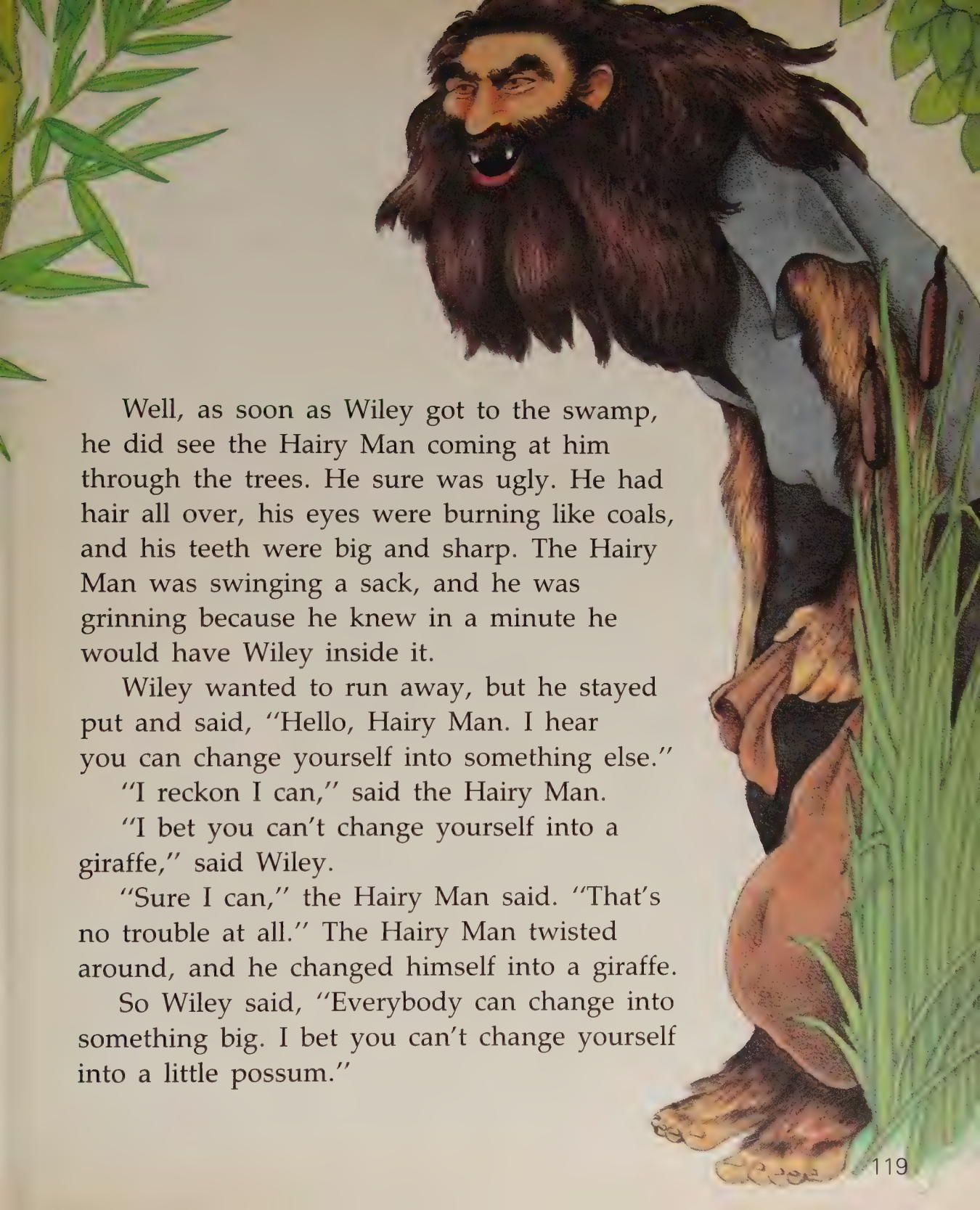
adapted from an American folk tale  
by Molly Garrett Bang

A long time ago, a boy named Wiley lived with his mother near a swamp in Mississippi. One day Wiley needed some bamboo to make poles for a hen roost. The only place to get bamboo was in the swamp, but that was where the Hairy Man lived. And the Hairy Man would get you if you didn't watch out.

"I'll take the hound dogs with me," Wiley said to his mother. "The Hairy Man can't stand hound dogs."

But Wiley's mother shook her head. "Leave your dogs tied up at home," she said. "You can't be scared of the Hairy Man forever. A time comes when you have to stand up to him." And Mother told Wiley just what to do if he saw the Hairy Man.





Well, as soon as Wiley got to the swamp, he did see the Hairy Man coming at him through the trees. He sure was ugly. He had hair all over, his eyes were burning like coals, and his teeth were big and sharp. The Hairy Man was swinging a sack, and he was grinning because he knew in a minute he would have Wiley inside it.

Wiley wanted to run away, but he stayed put and said, "Hello, Hairy Man. I hear you can change yourself into something else."

"I reckon I can," said the Hairy Man.

"I bet you can't change yourself into a giraffe," said Wiley.

"Sure I can," the Hairy Man said. "That's no trouble at all." The Hairy Man twisted around, and he changed himself into a giraffe.

So Wiley said, "Everybody can change into something big. I bet you can't change yourself into a little possum."

The giraffe twisted around and changed itself into a little possum. In a wink, Wiley grabbed the possum and threw it into the Hairy Man's sack. He tied the sack as tight as he could, and threw it into the Tombigbee River. Then Wiley started back home through the swamp, feeling strong and happy.

But he hadn't gone far, when there was the Hairy Man again, coming at Wiley. He looked uglier and meaner than ever. Wiley climbed right up the nearest tree.

"How did you get out?" he called down.

"I changed myself into the wind," said the Hairy Man, "and I blew my way out. Now I'm going to wait right down here. Sooner or later, you'll get hungry and you'll have to come down."

Wiley studied the situation. He thought about the Hairy Man waiting below, and he thought with longing about his hound dogs tied up at home.

After a while Wiley said, "Hairy Man, you did some pretty good tricks. But I bet you can't make things disappear."



The Hairy Man said, "Ha! That's what I'm best at. Look at your shirt, Wiley." Wiley looked down. His shirt was gone!

"Oh, that was just a plain old shirt," he said. "But this rope around my pants is magic. My mother pulled it from the air one day. I bet you can't make this rope disappear."

The Hairy Man said, "I can make all the rope in this county disappear."

"Bet you can't," said Wiley.

The Hairy Man threw out his chest, opened his wide mouth, and hollered loud, "All the rope in this county, DISAPPEAR!"

The rope around Wiley's pants was gone. He held his pants up with one hand, and held on to the tree with the other; and he hollered loud, "HERE, dogs!" The dogs came running and the Hairy Man fled.

Whistling, Wiley made his way through the forest, and never again did he fear the Hairy Man or his magic.

## Woman of the Prairie

by Patricia Demuth

Hannah's horse had given up about four miles back. He had just stopped. Winds whipped at his body, but he had not lifted another hoof through the piling snow. "Come on!" Hannah had begged, yanking to pull him forward. "You'll die here in this blizzard! Don't you want to *live*?" The old horse was stubborn. Hannah finally had to take off the saddle bag and leave him.

Now she walked alone through the whirling snow. With each plunge ahead, Hannah sank into snow above her knees.



Her legs had burned at first. Now they had no feeling at all.

*Just get to the trees!* she told herself. She had noticed the trees when she was on the horse. They stood out like giants on the flat Kansas prairie. If she could reach them, she could carry out her plan. She would be safe.

But she would have to reach the trees blindly. The snow was so thick that Hannah could not see even a step ahead. Hannah had figured out a way to use the wind as a guide. The wind was blowing from the southeast. That meant that if she walked with the wind slapping at her right side, she would be heading northeast. Northeast to the trees.

Suddenly Hannah was gripped with terrible fear. It seemed to her that she should have reached the trees by now. Maybe she had passed by them in the blinding snow! Was she lost now, on the never-ending prairie? Would she never reach her new home?

*Her new home.* Just this morning she had received the right to make a home on this land. The two men at the claims office had looked at her with surprise when she put in for her papers. Hannah knew they were wondering how a thirty-year-old woman could live on that wild prairie—*alone*. But the law



in 1871 said that any head of a household could have a farm—free—as long as he or she lived on it and cared for the land. Hannah had walked out of the office into the morning sunlight, holding the precious claim papers. To celebrate, she had bought the horse.

Hannah understood the horse now. She longed to lie down in a bed of snow. Her will to go on was being eaten away by fear.

Then Hannah bumped hard into the strong trunk of an oak tree.

Hope began to warm her numb body. Slowly, Hannah began to carry out her plan.

She stripped bark from the tree to use as a shovel. Then she began digging until she found the natural, hollow space between tree and snow. Hannah climbed down into the space. Once inside, she kept digging, making the space large enough to lie in. She packed blocks of snow together to make a roof. Now it was black and silent inside. The howling wind was locked outside.

Fumbling through the saddle bag, Hannah found a candle and matches. She lit the candle, dripped wax on a metal plate, and stuck the candle into it. She placed the candle on a ledge which she formed from the wall of her snow cave.

In the moments before she fell asleep, Hannah made herself eat some dried meat. She ate snow for water. Then, with aching fingers, she tied a red scarf to a stick and pushed it through the roof of her cave.

Thirty hours later, the search party saw the scarf. The men leading the search were the ones who had signed Hannah's claim papers. If they weren't sure two days before that Hannah could make it alone, they were sure now. Hannah had proved she had the courage and wit to make her home on the Kansas prairie.



## *Checking Comprehension and Skills*

1. What was Wiley's problem? (118)
2. How did Wiley outwit the Hairy Man? (119–121)
- 3. What is the theme of the story?
  - a. You can use your wits to overcome fears.
  - b. The Hairy Man fled from the swamp.
4. What was Hannah's problem? (122)
5. What was her plan?
- 6. What is the theme of the story?
  - a. The search party saw the red scarf and rescued Hannah.
  - b. Hannah thought of a plan to help her survive and prove she could live on the prairie.
- 7. Tell how the underlined word should be divided into syllables.

The Hairy Man looked uglier than ever.

ug•li•er      u•gli•er
- 8. Use context and consonants to figure out the incomplete word in the sentence below.

Hannah was happy about getting her farm, so she bought a horse to c\_l\_\_r\_\_.

celery      celebrate      rejoice

- Story Elements: Theme
- Word Study Strategies

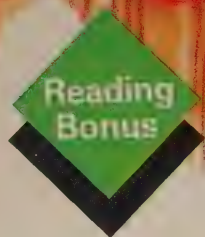


# Sharpen Your Wits

Here are some riddles to sharpen the wits of your friends. Read each one out loud to them, and let them ask you questions that you can answer with *yes* or *no*. No more than twenty questions are allowed.

1. A dancer has to see someone on the tenth floor of an office building. He must be there on time. When he enters the elevator, it is empty. He looks around and sees no one. He then pushes the button for the fifth floor. Why?
2. A woman is running home and meets a masked man. She stops and then runs back to where she started. Why?

Answers:  
 1. He is a child and can't reach the tenth-floor button.  
 2. She is in a baseball game. She sees the catcher and returns to third base.



# *The Glorious Whitewasher*

by Mark Twain

*Over one hundred years ago, Mark Twain wrote a book that has become a great classic. It was called The Adventures of Tom Sawyer. The book's hero is so clever and full of ideas that he outwits everyone he meets. Come and meet Tom Sawyer, one of the greatest schemers of all time.*

Saturday morning came, and all the summer world was bright and fresh, full with life. There was a song in every heart. There was cheer in every face and a spring in every step. The fruit trees were in bloom, and the fragrance of their young flowers filled the air.



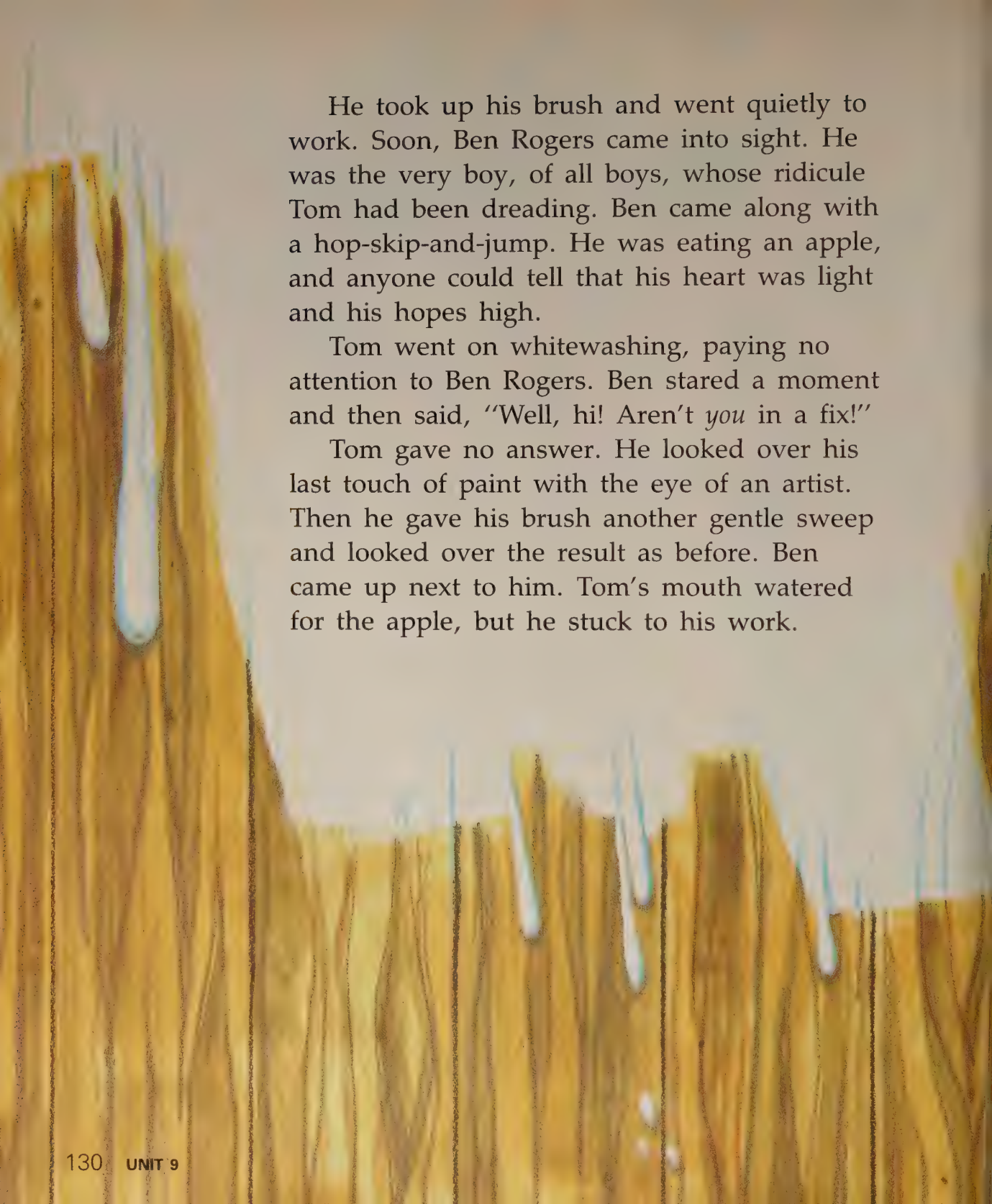
Tom appeared on the sidewalk with a bucket of whitewash and a paint brush. He looked at the fence he had to paint, so long and tall, and all joy left him. A deep sadness settled down upon his spirit. Living to him seemed but a heavy load.

Sighing, Tom dipped his brush and passed it along the top board of the fence. Then he did it twice again. He looked at the small strip he had painted, and then he looked at the far-reaching continent of unpainted fence. Tom sat down against a tree, discouraged.

He began to think of the fun he had planned for this day, and his sadness grew. Some of the other boys would come tripping along with all sorts of delicious things to do. And they would make a world of fun of him for having to work. The very thought of it burned him like fire.

Tom reached into his pocket, took out all his wealth, and looked at it. There were bits of toys, marbles, and trash. It was not half enough to pay a kid to do even thirty minutes of his work. So he returned them to his pocket, and gave up the idea of trying to buy help. At this dark and hopeless moment, an inspiration came upon him! It was nothing less than a great and wonderful idea.





He took up his brush and went quietly to work. Soon, Ben Rogers came into sight. He was the very boy, of all boys, whose ridicule Tom had been dreading. Ben came along with a hop-skip-and-jump. He was eating an apple, and anyone could tell that his heart was light and his hopes high.

Tom went on whitewashing, paying no attention to Ben Rogers. Ben stared a moment and then said, "Well, hi! Aren't *you* in a fix!"

Tom gave no answer. He looked over his last touch of paint with the eye of an artist. Then he gave his brush another gentle sweep and looked over the result as before. Ben came up next to him. Tom's mouth watered for the apple, but he stuck to his work.

Ben said, "Hello, old chap, you got to work, hey?"

Tom wheeled around suddenly. He said, "Why, it's you, Ben! I wasn't noticing."

"Say, I'm going swimming, I am," said Ben. "Don't you wish you could? But, of course, you'd rather *work*, wouldn't you? Course you would!"

Tom studied the boy a bit, and said, "What do you call work?"

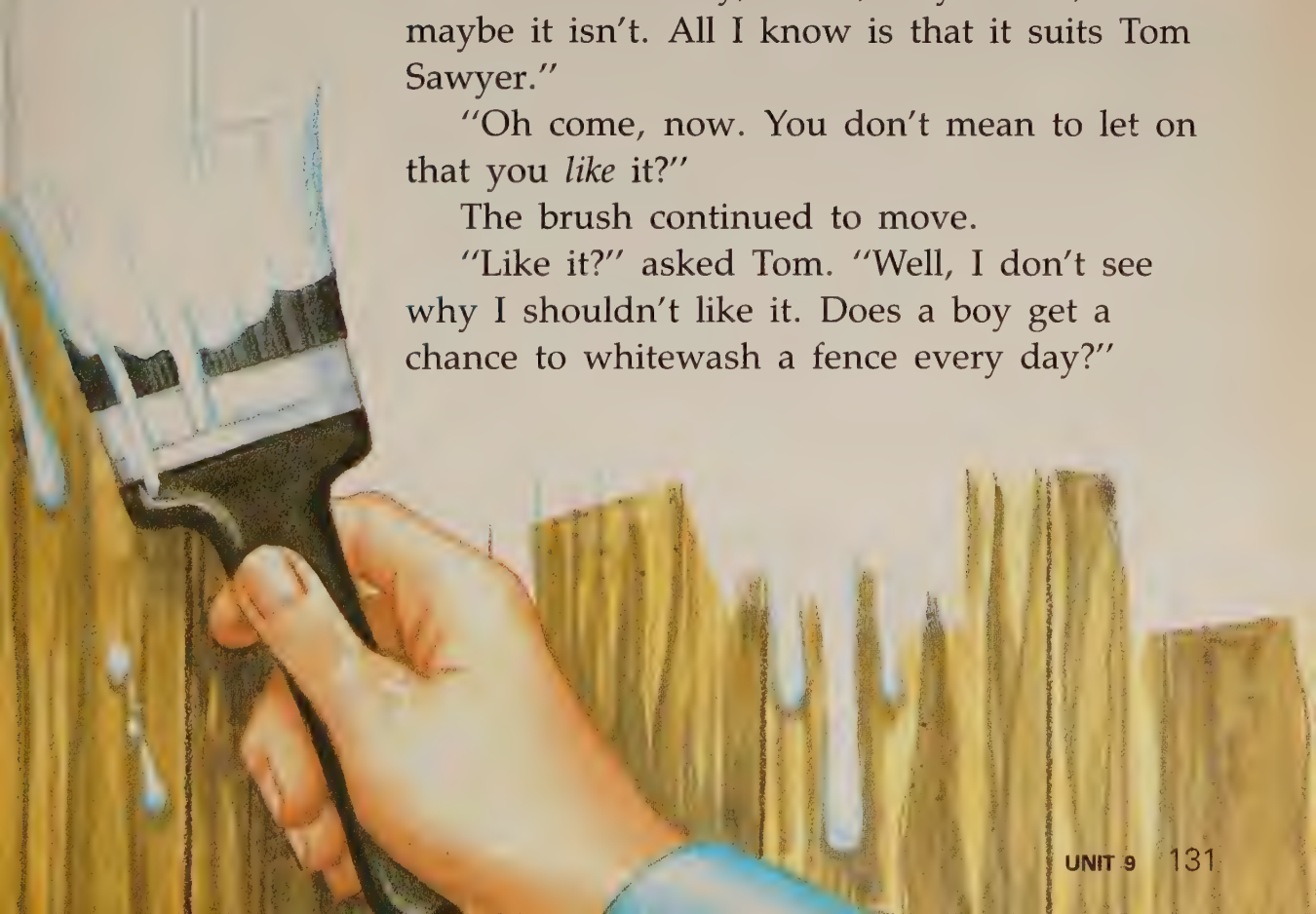
"Why, ain't *that* work?"

Tom went back to his whitewashing, and answered carelessly, "Well, maybe it is, and maybe it isn't. All I know is that it suits Tom Sawyer."

"Oh come, now. You don't mean to let on that you *like* it?"

The brush continued to move.

"Like it?" asked Tom. "Well, I don't see why I shouldn't like it. Does a boy get a chance to whitewash a fence every day?"



That put the thing in a new light. Ben stopped eating his apple. Tom swept his brush lightly back and forth. He stepped back to note the result, added a touch here and there, studied his work again. Ben was watching every move, getting more and more taken in.

After a little while he said, "Say, Tom. Let *me* whitewash a little."

Tom thought about it, almost said yes, but changed his mind. "No, I reckon it wouldn't hardly do, Ben. You see, my Aunt Polly is awful particular about this fence. It's right here on the street, you know. But if it was the back fence, I wouldn't mind and *she* wouldn't. Yes, this fence has got to be done just so. I don't suppose there is one boy in a thousand, maybe two thousand, that can do it the way it's got to be done."

"No! Is that so? Oh come, now. Let me just try. Only just a little. I'd let *you*, if you was me, Tom."



"Ben, I'd like to, really. But Aunt Polly, well—. Jim wanted to do it, but she wouldn't let him. Sid wanted to do it, and she wouldn't let Sid. Now don't you see how I'm fixed? If you was to paint this fence and anything was to happen to it . . ."

"Oh, shucks, I'll be just as careful as you, Tom. Now let me try. Say, I'll give you the core of my apple."

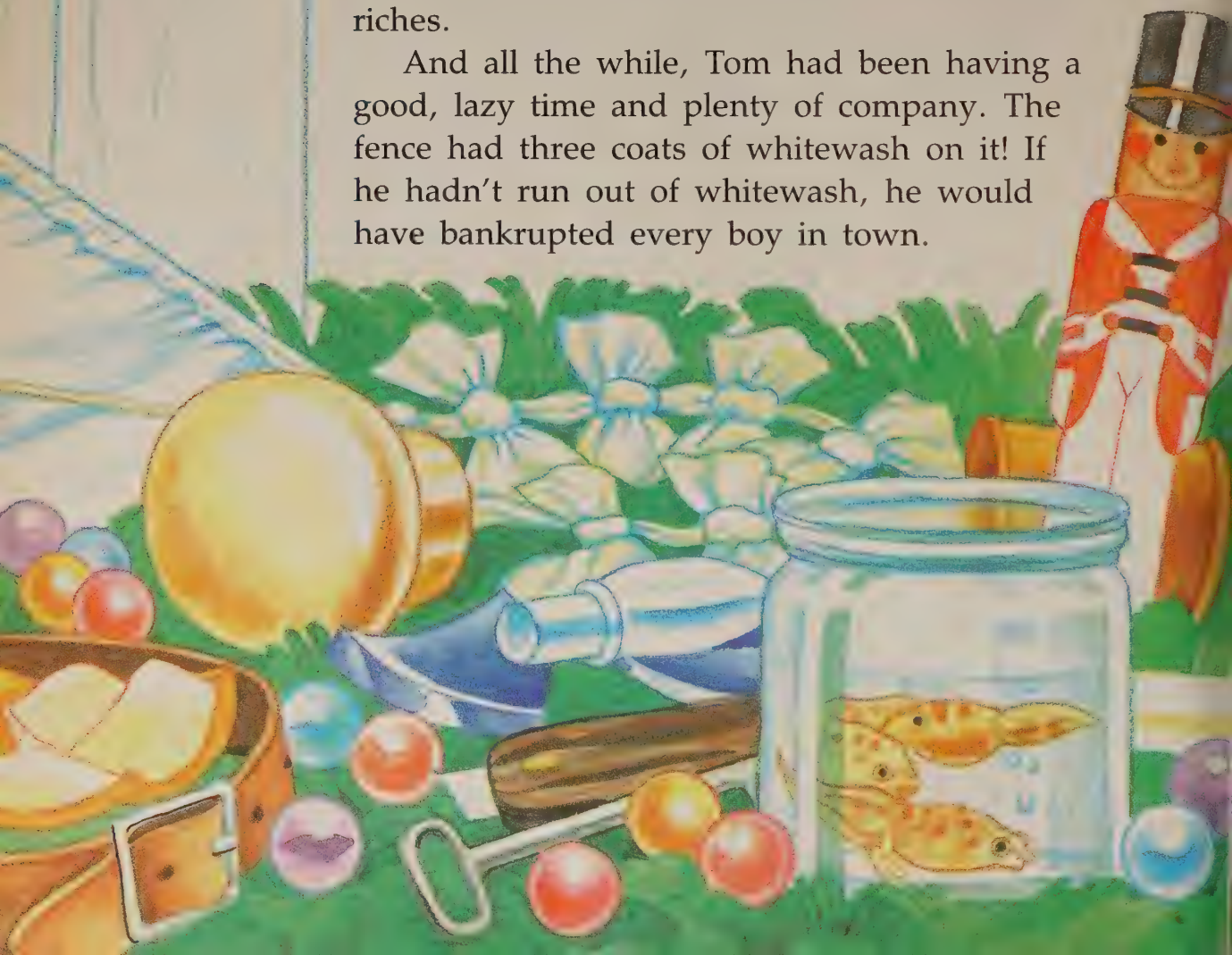
"Well, here—. No, Ben, I just can't. I'm afraid—."

"I'll give you *all* of it!" Ben said.

Tom gave up the brush with question in his face, but joy in his heart. And while Ben worked and sweated in the sun, the retired artist sat in the shade close by. He sat eating his apple, and planning the doing-in of more innocents.

There were plenty of victims. Boys happened along every little while. They came to poke fun. But they remained to whitewash. By the time Ben was tired, Tom had traded the next chance to Billy Fisher for a kite. And when *he* tired out, Johnny Miller bought in for a dead rat and a string to swing it with. And so it went, hour after hour. And when the middle of the afternoon came, from being a poor boy in the morning, Tom was rolling in riches.

And all the while, Tom had been having a good, lazy time and plenty of company. The fence had three coats of whitewash on it! If he hadn't run out of whitewash, he would have bankrupted every boy in town.



# Using the Dictionary

Skill  
Bonus

There are all kinds of ways of getting help. In “The Glorious Whitewasher,” Tom Sawyer thought of one way. But suppose Tom needed help with the meaning of a word. What do you think he should do? One tip you could give Tom is to look up the word in a dictionary.

## Sharpen Your Skills

In the story about Tom, you read this sentence.

The fruit trees were in bloom and the fragrance of their young flowers filled the air.

What if you didn’t know what *fragrance* meant? First you should try to figure out a meaning that makes sense in the sentence. Then you could check the meaning of the word in a dictionary.

Follow the tips on page 137 to help you use a dictionary or a glossary.





The words listed in a dictionary are in alphabetical order. So *fragrance* is with the *F*s near the front of the dictionary. You can find the page you need quickly by using the guide words. **Guide Words** are the words in dark print at the top of each dictionary page. The word you are looking up should come in alphabetical order between the two guide words.

The word you are looking up is called an **entry word** and also is shown in dark print. How many entry words do you see on the page?

## guide words

## founder | frail

a hat	i it	oi oil	ch child	a = { a in about e in taken i in pencil o in lemon u in circus
ā age	ī ice	ou out	ng long	
ä far	o hot	u cup	sh she	
e let	ō open	ū put	th thin	
ē equal	ô order	û rule	th then	
ēr term			zh measure	

**found • er**<sup>2</sup> person who founds or establishes something. *n.*

**found • ry** (foun'drē), place where metal is melted and molded; place where things are made of molten metal. *n., pl. found • ries.*

**four** (fôr), one more than three; 4. *n., adj.*

**four • teen** (fôr'tēn'), four more than ten; 14. *n., adj.*



FOX

**fox** (def. 1)—about 16 in. (40 cm.) high at the shoulder

**fox** (foks), 1 a wild animal somewhat like a dog, having a pointed muzzle and bushy tail. In many stories the fox gets the better of other animals by its cleverness. 2 its fur. 3 a clever or crafty person. *n., pl. fox • es. —fox' • like', adj.*

**foy • er** (foi'ər), 1 a lounging room in a theater, apartment house, or hotel; lobby. 2 an entrance hall. *n.*

**fra • cas** (frā'kəs), a noisy quarrel or fight; disorderly noise; uproar; brawl. *n., pl. fra • cas • es.*

**frac • ture** (frak'tʃər), 1 a breaking of a bone or cartilage. 2 a breaking or a being broken: a fracture of friendly relations. 3 result of breaking; a break; crack: The fracture in the foundation is widening.

4 break; crack: I fractured my arm. 1-3 *n.*, 4 *v.*, frac • tured, frac • tur • ing.

**frag • ment** (frag'mənt), 1 piece of something broken; part broken off: After I broke the vase, I tried to put the fragments back together. 2 an incomplete or disconnected part: Because of the noise he could hear only fragments of the conversation. *n.*

**fra • grance** (frā'grəns), a sweet smell; pleasing odor: the fragrance of flowers, the fragrance of perfume. *n.*

entry word

**fra • grant** (frā'grənt), having or giving off a pleasing odor; sweet-smelling: Fragrant roses perfumed the air. *adj. —fra' • grant • ly, adv.*

definition

**frail** (frāl), 1 slender and not very strong; weak: a frail old man. 2 easily broken or giving way: Be careful: those little branches are a very frail support. 3 morally weak; liable to yield to temptation. *adj. —frail' • ly, adv.*

- Most entry words are root words. Remember that a root word is a word without an ending. If you were looking up *fracturing*, what entry word would you look up?
- A **definition** gives the meaning of an entry word. Look at the sample. What does *fragrance* mean? Sometimes several definitions are given. If so, read them all. Then pick the one that fits best in what you are reading.
- Sometimes a dictionary gives a phrase or sentence in special print after a definition to help you figure out the meaning of the word. Read the first definition for *fragment* and the sentence that follows it to see how the sentence helps.
- Sometimes a picture goes with an entry word to help you understand the word. Which word in the sample has a picture?

Use the dictionary page on page 136 to answer these questions.

1. If the word *fraction* appeared on the page, between which two entry words would it be?
2. Which definition of *fox* makes sense in this sentence? *What a fox Tom Sawyer is!*

Remember that a dictionary can help you when you need help with words.



## Books to Read

### **The Picture Life of O. J. Simpson**

by Jon Jameson. Watts

O. J.'s nickname as a child was "Pencil Pins" because he had to wear leg braces which left his legs thin. How did he become a football superstar?

### **Play It in Spanish** by Mariana Prieto.

John Day

You may want to check out this book and bring it to school to share with your class. These Spanish songs and games have been sung and played for many years. The folk songs and games are written in both English and Spanish. Enjoy yourself!

*¡Que te diviertas!*

### **Peter Pitseolak's Escape from Death**

by Peter Pitseolak. Delacorte

Peter Pitseolak and his son must keep their wits. They are stranded in arctic waters with small hope of survival. This true story was written and illustrated by Peter Pitseolak, an Eskimo historian and artist.



## Section Four

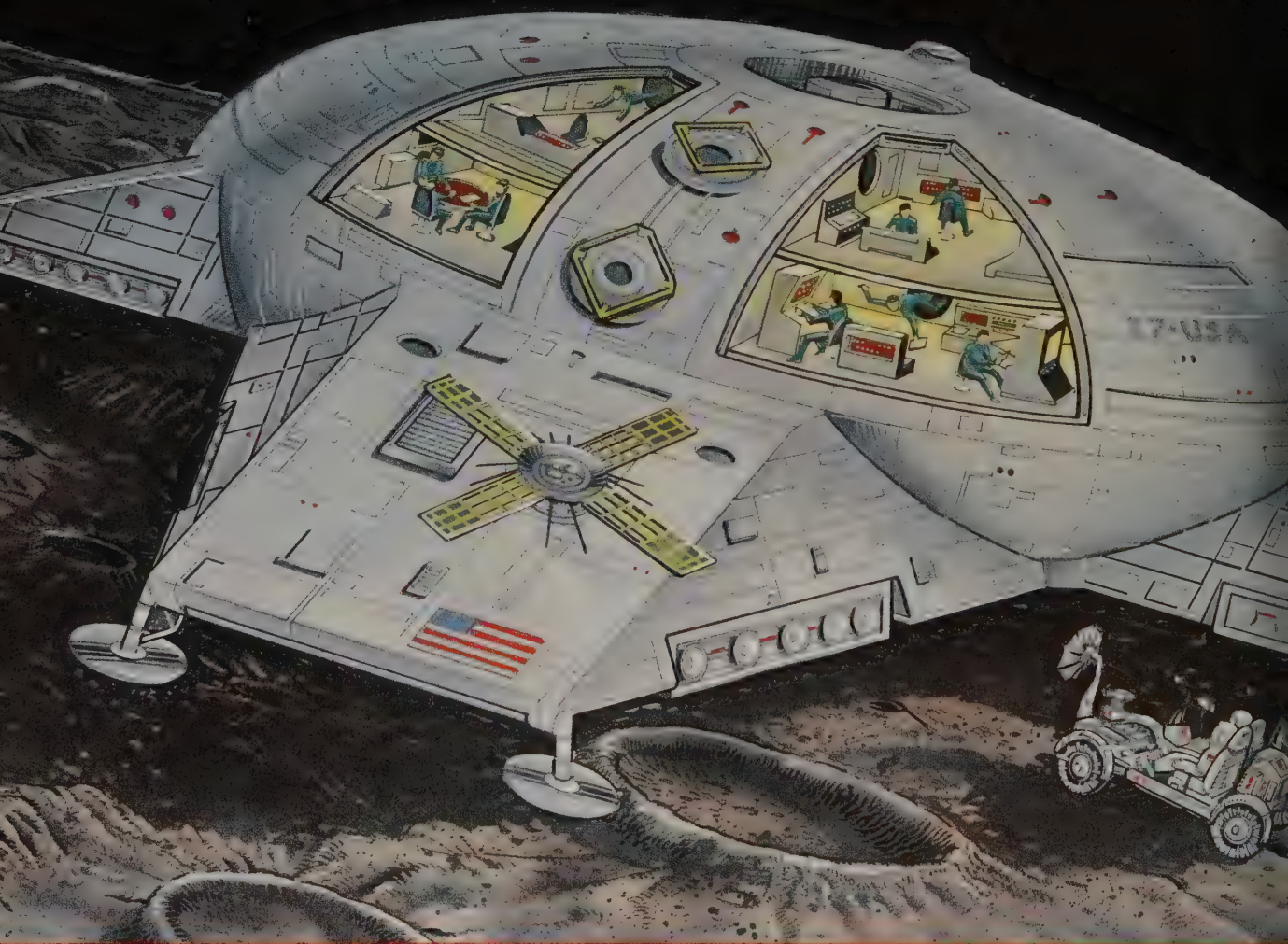
# *Out There*



How can there be no “down” up there? 140–151

How can a spoon spoil a space ruler’s plan? 152–167

How can stars fall? 168–180





# Beyond the Moon

People have looked up into the heavens at the moon and stars for many years. They have wondered what it would be like out there and how, or if, they could ever get there.

As time went by, scientists learned more about space and created the rockets they needed to travel in space. Going to the moon finally came true.

Now people are dreaming about going beyond the moon, and even of making their homes far out in space.





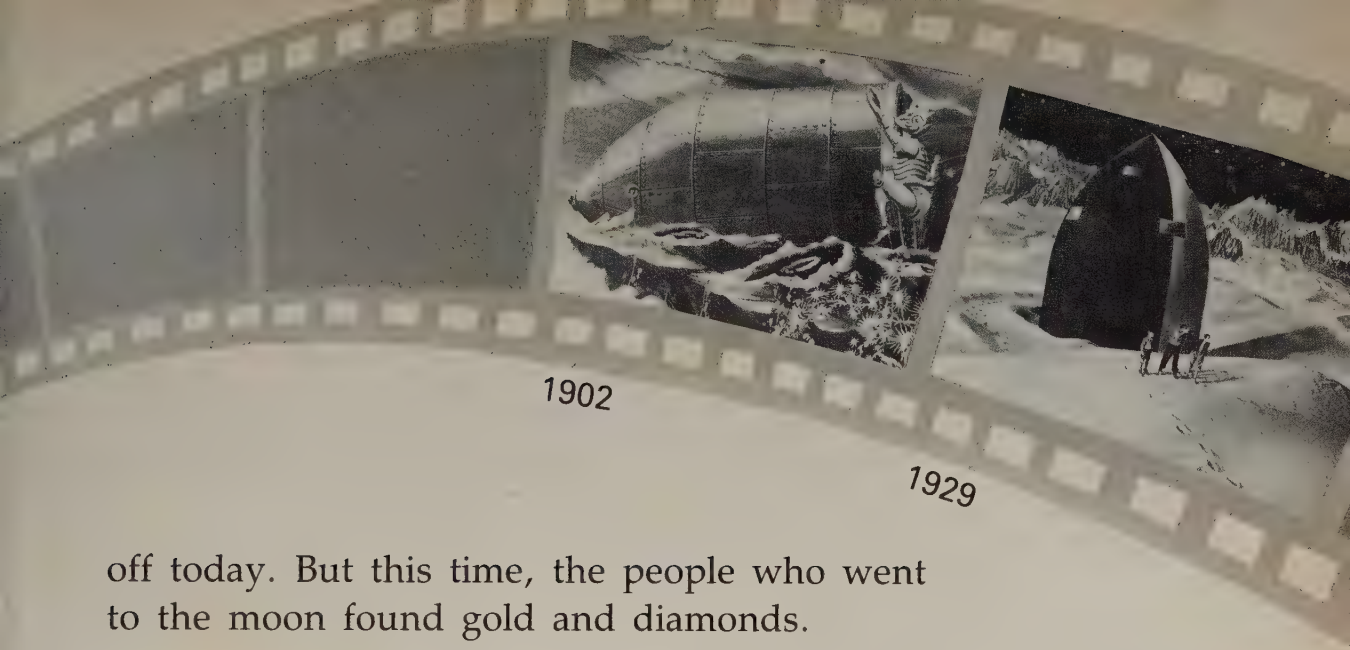
# Going to the Moon at the Movies

Long before people reached the moon, the people who made movies were already thinking about what might be found there.

The first such movie, made in 1902, showed a spaceship that was a large metal shell. It was shot out of a cannon and landed on the moon. Strange monsters were found living there.

In a 1919 movie, the spaceship was shaped like a ball. It was covered with something that allowed it to float like a balloon up to the moon. This time the moon had huge cactus plants on its surface.

In 1929 a movie was made that began to show what going to the moon would really be like. It showed a countdown, just like the one that takes place before a real spaceship takes



off today. But this time, the people who went to the moon found gold and diamonds.

### ***Sharpen Your Skills***

When you read, you can often see how things mentioned in an article or story are alike or different from each other. You can also compare what you read about something with what you already know about it.

1. How were the three movies alike?
2. Different things were found on the moon in each movie. What were they?
3. Think about what you already know about the moon. How is it different from what these movies showed?

As you read the next selection, think about what traveling and living in space will be like. How will it be like or different from traveling and living on Earth?

# From Earth into Space

by Jeanne Bendick

## Traveling in Space

Space is very different from Earth. There is no air in space. Because there is no air to scatter sunlight, space is black. Because there is no air to carry heat, space is very cold. Because there is no air to carry sound, space is silent.

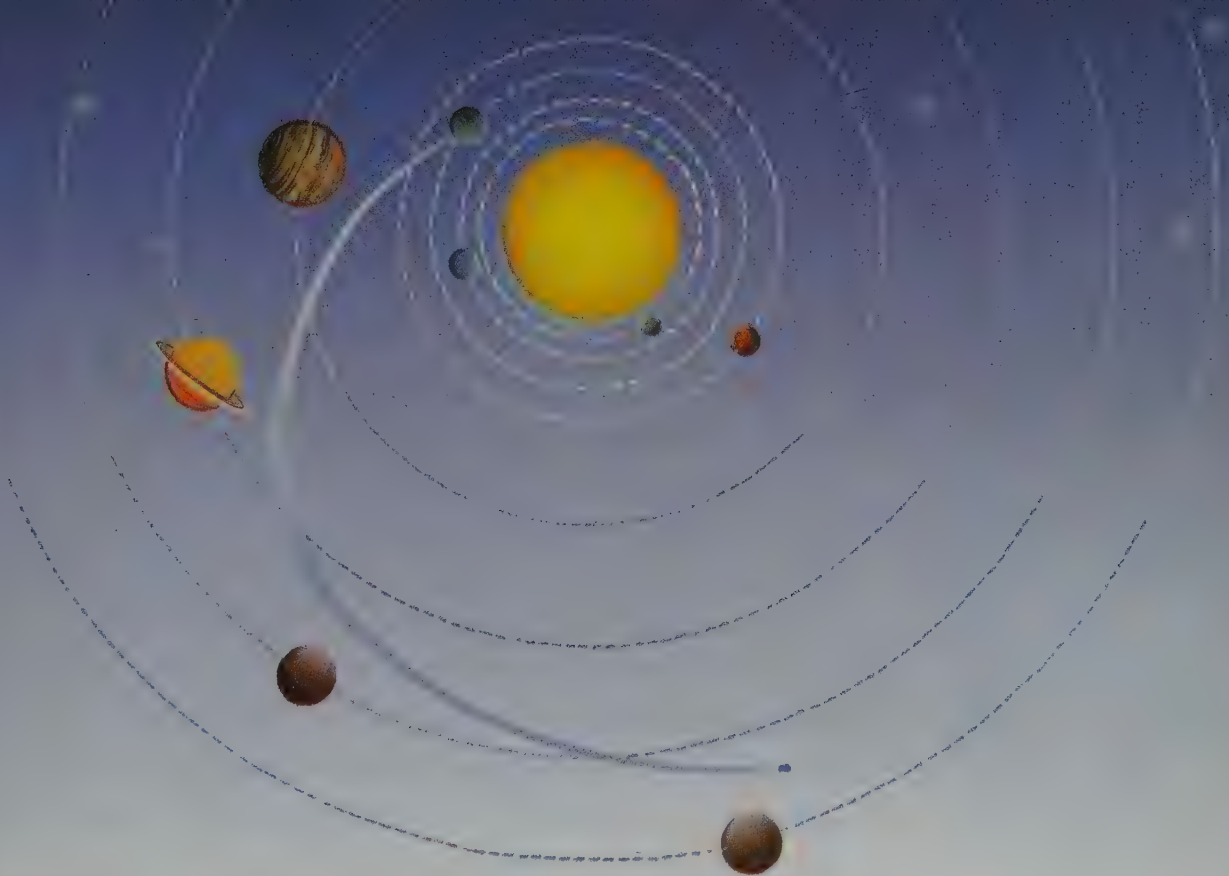
What's the point of going into space, anyway? Why leave Earth with its comforts?

For one thing, curiosity seems to be a part of people. People have always wanted to know what was on the other side of the mountain or forest or across the sea. They wondered what other places were like.

The reasons for going into space are just about the same. People still want to know. People still want to see new places.

To get to where they want to go, people will travel on "roads." These "roads" are not the same as the streets or highways on Earth. The roads in space cannot be seen. Some of them are orbits, or routes, objects follow while moving around in space.





For example, Earth and the other planets move around the sun. The moon moves around Earth. Their orbits don't change much as a rule. Space bodies go along almost the same roads they have always followed. People can depend on them to take the same trips in about the same amounts of time.

Space trips will be planned so that spaceships will swing from the "road" of one planet to that of the next along the way.

It will take hundreds of years to explore the whole solar system. Some places, such as the sun, are impossible for people to go to. The sun is so hot that people would be burned to cinders long before they got there.

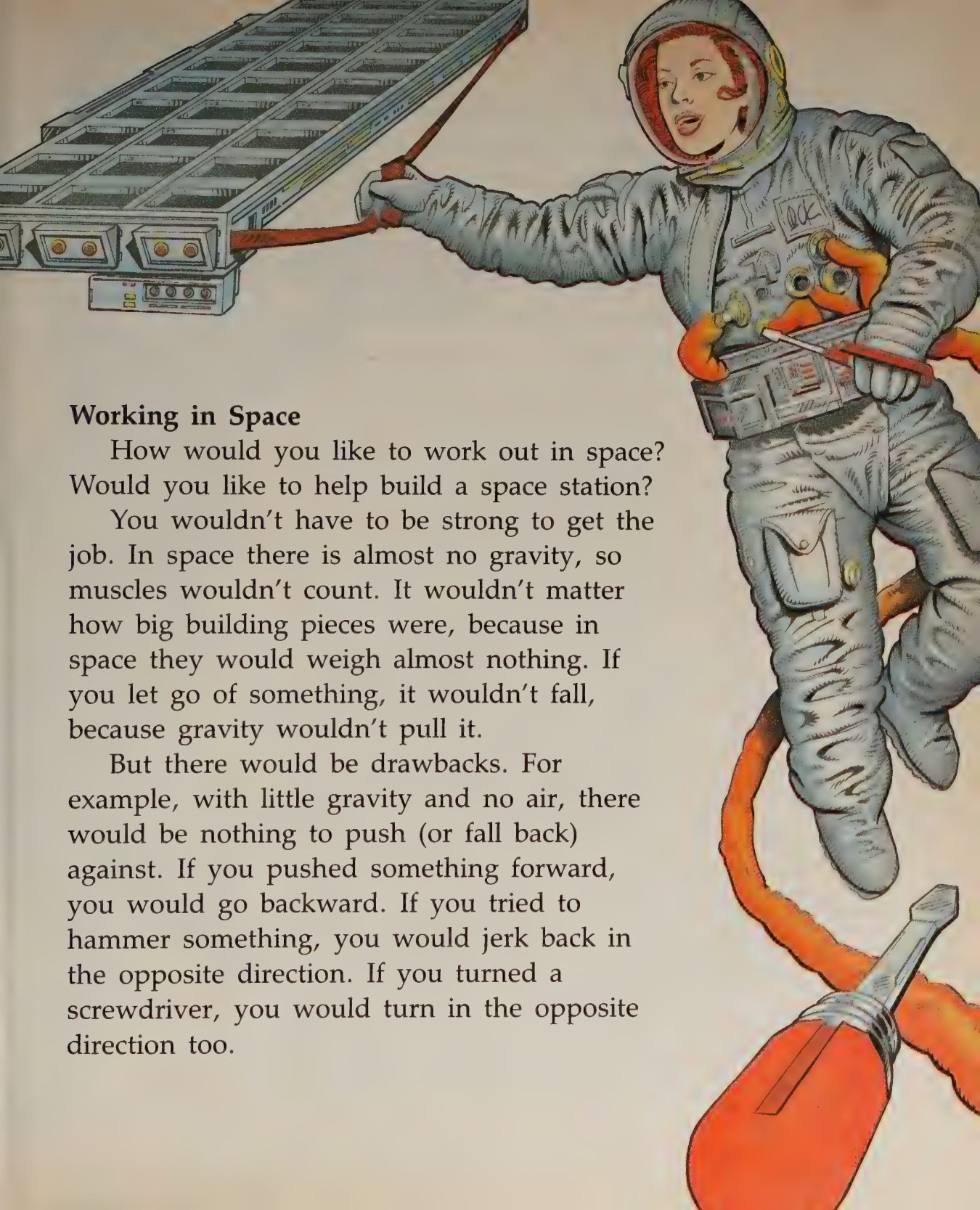
Some planets can be visited. Certainly people will be exploring Mars, one of Earth's nearest neighbors.

Mars is colder than Earth, but not too cold for people in heated spacesuits. People would have to wear spacesuits anyway, to be able to breathe. Mars has less gravity than Earth. People might have to wear extra-heavy boots to keep from bouncing too high when they walked. If a person weighed 100 pounds<sup>1</sup> on Earth, he or she would only weigh about 38 pounds<sup>2</sup> on Mars.

Mars is one planet people might be able to terraform, or make enough like Earth to live there under the open sky. This could take hundreds or even thousands of years. Still, Mars might be the first place far out in space that people from Earth will travel to.

---

1. about 45 kg      2. about 17 kg



## Working in Space

How would you like to work out in space? Would you like to help build a space station?

You wouldn't have to be strong to get the job. In space there is almost no gravity, so muscles wouldn't count. It wouldn't matter how big building pieces were, because in space they would weigh almost nothing. If you let go of something, it wouldn't fall, because gravity wouldn't pull it.

But there would be drawbacks. For example, with little gravity and no air, there would be nothing to push (or fall back) against. If you pushed something forward, you would go backward. If you tried to hammer something, you would jerk back in the opposite direction. If you turned a screwdriver, you would turn in the opposite direction too.



Also, since there is no air in space, the sound of your voice would not carry as it does on Earth. How would you communicate with other workers? One way, for example, would be by radio because radio waves travel through space. You could also touch helmets and talk. Then sound waves would travel through the helmets. Of course, you would be wearing your spacesuit at all times.

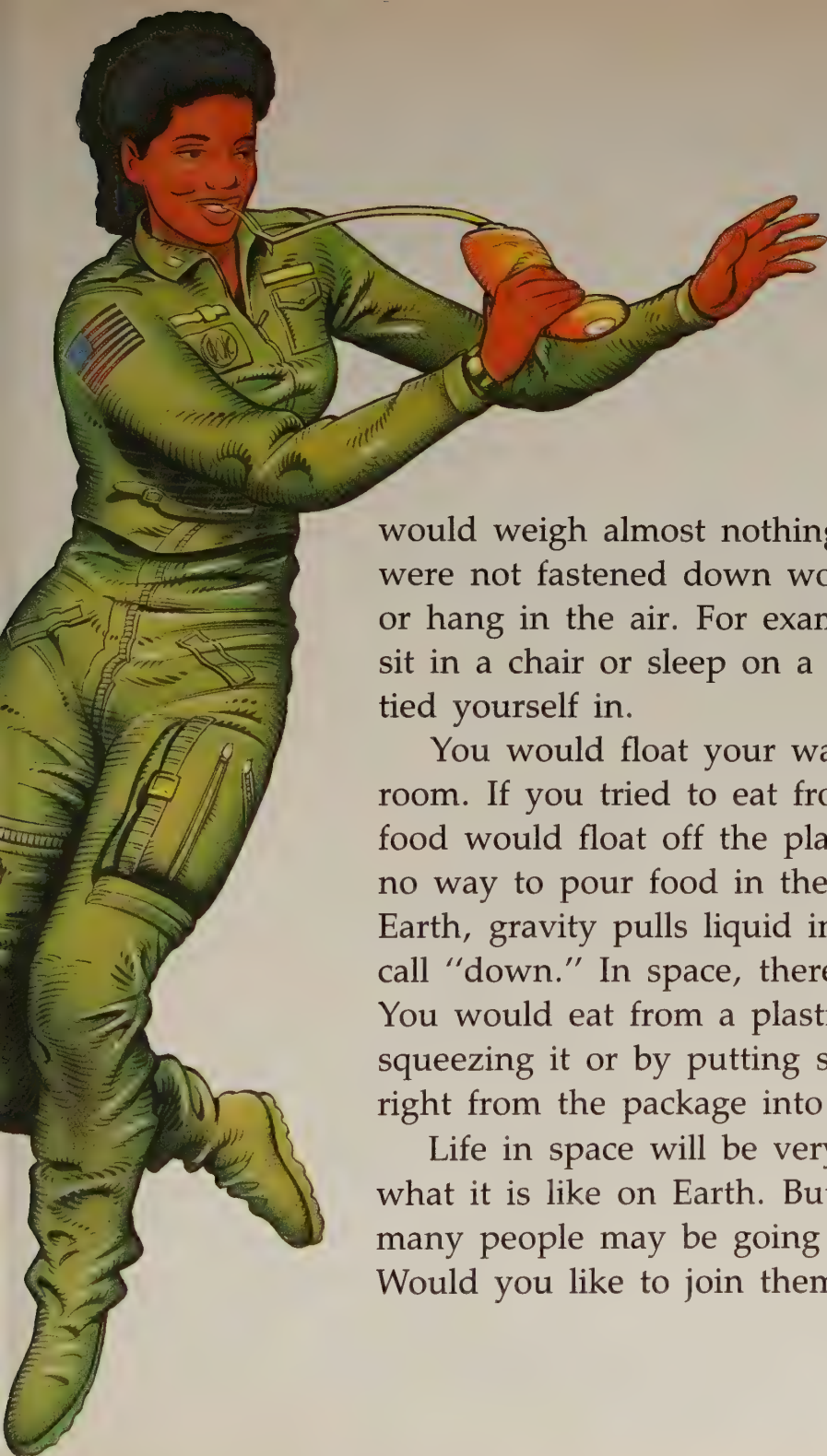
The side of you facing the sun would be bright and hot. The side of you facing away from the sun would be dark and cold.

When your day's work was over, you would take a space "taxi" back to the space station where you were living.

But what would be a day in space? What we call a day and a night on Earth, or on other planets, does not happen in space. There, it's never day or night. The sun is always shining, but the sky is always black. People who lived and worked in space would have to decide what was day and what was night.

When you got inside your space station, you could take off your spacesuit because there would be plenty of oxygen to breathe in the cabins.

But there would be almost no gravity inside the space station either. Everything



would weigh almost nothing. Things that were not fastened down would float around or hang in the air. For example, you couldn't sit in a chair or sleep on a bed unless you tied yourself in.

You would float your way to the dining room. If you tried to eat from a plate, all the food would float off the plate. There would be no way to pour food in the space station. On Earth, gravity pulls liquid in the direction we call "down." In space, there is no "down." You would eat from a plastic package by squeezing it or by putting small pieces of food right from the package into your mouth.

Life in space will be very different from what it is like on Earth. But in the future many people may be going there to live. Would you like to join them?

### ***Checking Comprehension and Skills***

1. Why is space black, cold, and silent? (144)
2. Why do people want to travel into space? (144)
- 3. What are some “roads” in space? How are they alike or different from roads on Earth? (144–145)
4. Why might Mars be the first planet people from Earth visit? (146)
5. Would you worry if you dropped your lunch bag while you were working out in space? Why or why not? (147)
- 6. How are day and night on Earth different from what happens in space? (148)
7. What would you take on a space trip to trade with a friendly alien?
- 8. Find the word *drawbacks* in the last paragraph on page 147. What are some drawbacks to working in space? What clue words helped you answer?
- 9. Find the word *communicate* in the first paragraph on page 148. What is one way to communicate with other workers in space? What clue words helped you answer?

- Comparisons
- Context: Unfamiliar words



# Reading a Travel Itinerary

Dolores Varga's travel itinerary below tells about a trip she is going to take.

You can tell by reading the first two lines that she is leaving on the 27th of March, 1985, on a Wednesday. Dolores is going to travel by air from Detroit Metro Airport. She is leaving at 9:05 in the morning on the Jetway Airline. Her flight number is 953.

## 27 Mar 85/Wednesday

Air	LV Detroit Metro	905 AM Jetway	Flt: 953
	AR San Juan	359 PM 1-stop	Lunch

## 07 Apr 85/Sunday

Air	LV San Juan	945 AM Pamair	Flt: 1136
	AR Miami	1112 AM Non-stop	Breakfast
Air	LV Miami	115 PM Jetway	Flt: 1064
	AR Detroit Metro	404 PM Non-stop	Lunch

1. When will Dolores arrive (AR) in San Juan?
2. Is Dolores going to stop on the way to San Juan? How do you know?
3. What meals is Dolores going to have on the way home?
4. What does Dolores have to do in Miami?

Addresses





# Adventures in Space

Perhaps someday you will travel beyond the earth, deep into the mystery of space. There are new planets to explore far out there. What will they be like? They may be hot, unfriendly worlds. They may be cold, silent, yet beautiful places.

What weird and wonderful things will you see? What new adventures wait for you out there in space?



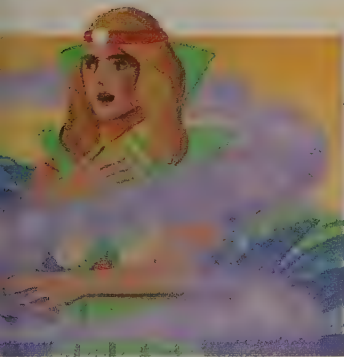
## Figuring Out Causes and Effects



You can probably tell that the women in the picture are on another planet. Right now they are not able to breathe well. Can you find the cause in the picture? Yes, they are covered by a strange purple fog.

### *Sharpen Your Skills*

In the picture you saw a cause and an effect. The effect was that the women could not breathe well. The cause was the purple fog. The purple fog caused the women to have breathing problems. Often when you read you cannot understand a story well unless you understand what is happening and why it is happening. A **cause** is why something happened. An **effect** is what happened. On the next page are some tips for finding causes and effects.



- Look for clue words that point out causes or effects. Some of these words are *so*, *since*, *because*, and *as a result*.
- There will not always be clue words to help you. If there are no clue words, try asking yourself the following questions.
- To find a cause, ask “Why did it happen?”
- To find an effect, ask “What happened?”

Now read the following story to find causes and effects. As you read the first part, ask yourself why Sue and Martha don’t need spacesuits on the planet Rigon.

“Martha!” Sue called. It was good to hear the sound of her own voice. She was glad to be on a planet where she did not have to wear a spacesuit. Everyday clothes could be worn, since the air and gravity on Rigon were like Earth’s. People could move and talk freely.

Sue’s partner Martha appeared over a hill. She waved. “Did you find some good samples?”

Sue nodded. She and Martha had been sent down from the big ship to take samples of the plants growing on Rigon. In this valley there were many kinds. Most had leaves that were blue, not green like leaves on Earth plants.

As Martha reached Sue’s side, something strange happened. A purple fog appeared.

In seconds, the fog was everywhere.

"Sue, don't breathe!" gasped Martha. But she herself had already breathed some fog.

1. Martha and Sue could wear everyday clothes on Rigon. What caused them to be able to wear these clothes?

2. What clue word helped you find the cause?

The women could wear everyday clothes because Rigon's air and gravity were like Earth's. Did you find the clue word *since*? Now read the rest of the story to find out what else happened because of the fog.

When the last purple wisps disappeared, Sue let herself breathe again. *That was scary*, she thought. *I hope Martha's okay*.

"Sue, you're thinking about me, aren't you?" Martha said suddenly.

"That's right. How did you guess?"

"I didn't guess," said Martha. "I know it sounds weird, but I read your thoughts."

"The fog must have changed you!" said Sue.

3. What strange thing happened to Martha?

4. What caused the strange effect on Martha?

Look for effects—and their causes—as you read "Escape from Khrona."



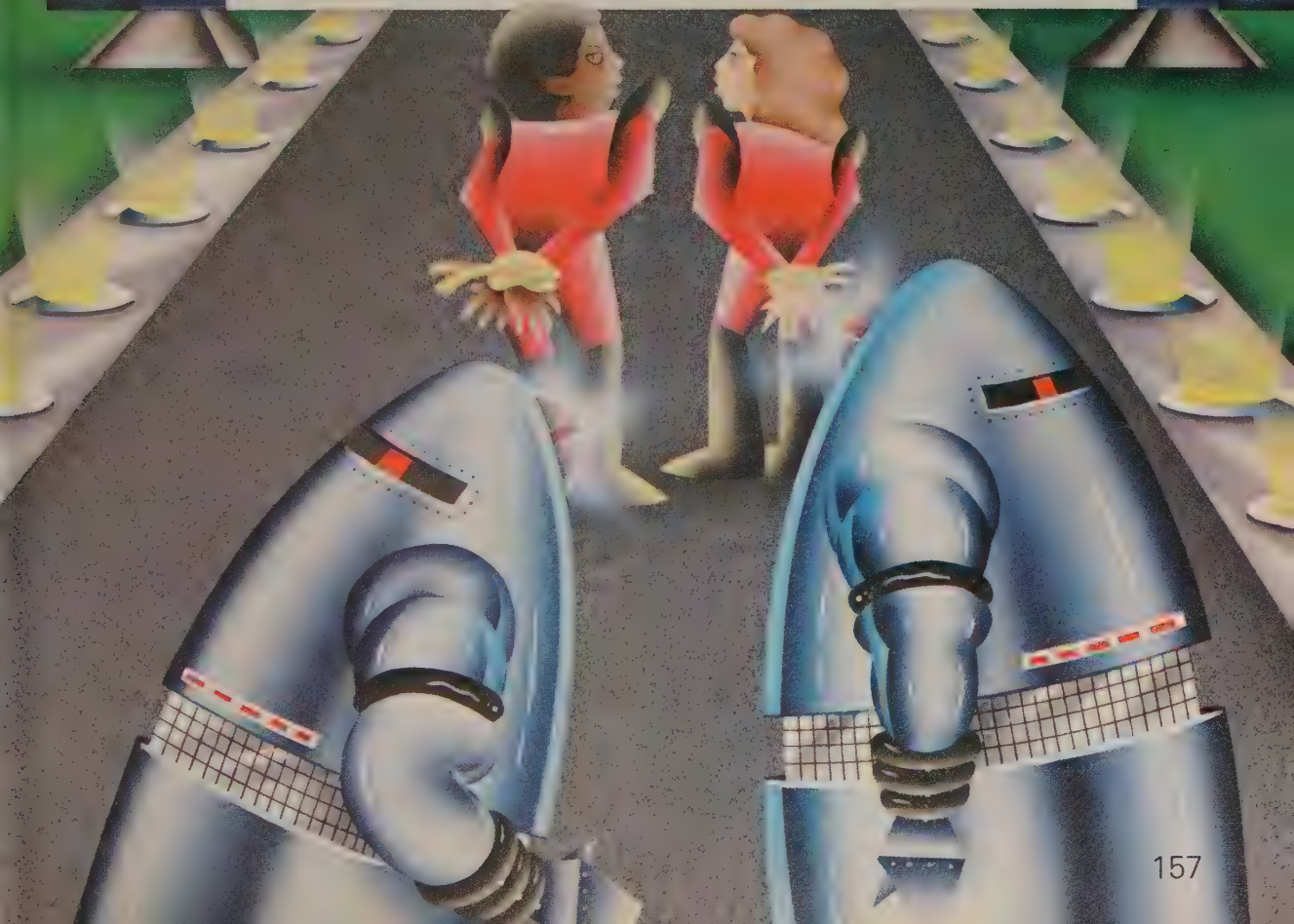
# Escape from Khrona


by Pauline Dorgan Guppy

Naldo felt the ropes rub his arms as he walked beside Ariana. He could hear the sound of the robots moving behind them.

"At least we're alive," Naldo said out of the corner of his mouth.

"What will they do with us?" Ariana's voice sounded strained.





Naldo and Ariana had been working by themselves in a faraway part of their home planet, Theros, when a strange spaceship had landed. Out of it had leapt two metal robots with long, thin bodies and strong arms. They had pushed Naldo and Ariana into the spaceship. One robot had taken away their radio before Naldo could call for help. Then they had been tied up and brought to this planet, Khrona.


Now, less than a half hour later, they stood before a huge, silver door. They entered. On a raised platform in the center of the room, a man sat in a chair that looked like a throne. The mirrors on the walls showed his face from every possible direction. Naldo knew that this was the only humanoid, man-like being, on Khrona. This was Uland.

"Come," he ordered.

Naldo smiled at Ariana and said, "Don't let him scare you." Ariana moved beside him.

"What do you want with us?"

Naldo asked.







"You shall see," Uland turned to his console, a control board with buttons. He pushed several buttons. When he touched one button, it caused a large screen to lower from the ceiling. On the screen appeared the face of Captain Gerda, President of Theros.

"Captain Gerda. This is Uland. As you see, I have two of your subjects here."

"Yes, I see." Gerda's voice was tense. "What do you want with them?" Gerda asked.

"Unless you do just what I say, they will never leave here." A mean, sly smile spread over Uland's face.

"We will do as you ask if at all possible," Gerda said.

"First, you must remove the satellite station that goes around Khrona once every ten years."



"But . . ."

"Quiet! Second, you must bring me your chief robot and destroy all copies. I have a tool that will tell me if any copies remain on Theros."

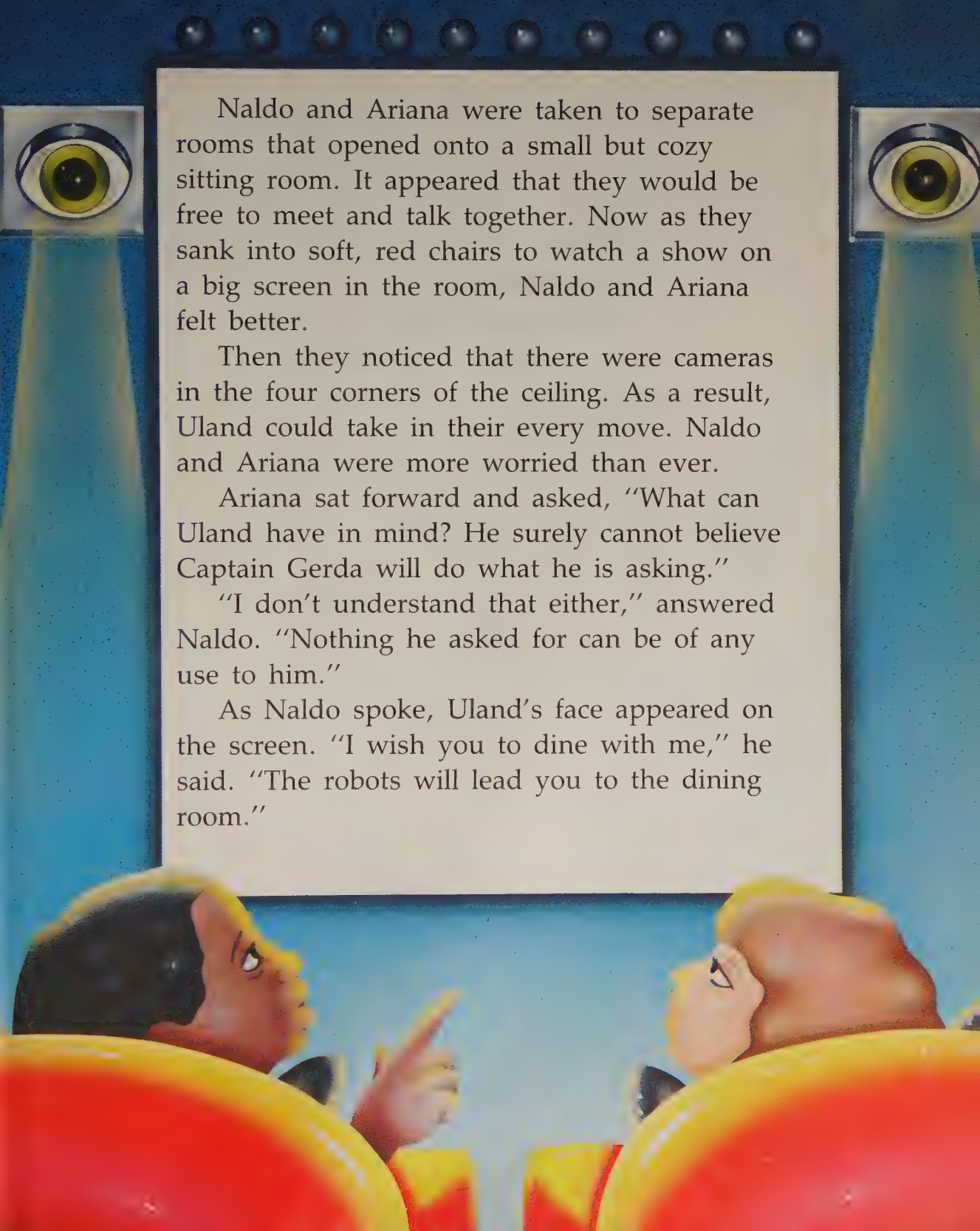
Naldo saw a frown on Captain Gerda's face. She seemed to be thinking that Uland could not possibly mean what he said. The people of Theros really needed their robots.

"Third, and most important, you must let me have half of Theros," Uland went on.

"You know all these demands cannot be met." Captain Gerda looked very angry. "It might be possible to remove the satellite station because it is just a weather station. But why do you wish us to remove it? And why do you wish to destroy our robots? That is impossible! All our food and clothing factories are run by these robots. We could not live without them.

"And your third order is out of the question. We need every inch of our planet to grow food and to get important minerals. We cannot give away any land to you. You must give us more time. I will . . ."

"Our talk is finished." Uland's hand pushed the buttons. Gerda's face disappeared.

The background of the page is a dark blue wall. At the top, there is a row of eight black circular objects, possibly camera lenses or lights. On the left and right sides, there are two large, stylized eyes with yellow irises and black pupils, each mounted on a white rectangular base. Two bright yellow spotlights shine down from the eyes onto the text area. The text is contained within a white rectangular frame.


Naldo and Ariana were taken to separate rooms that opened onto a small but cozy sitting room. It appeared that they would be free to meet and talk together. Now as they sank into soft, red chairs to watch a show on a big screen in the room, Naldo and Ariana felt better.

Then they noticed that there were cameras in the four corners of the ceiling. As a result, Uland could take in their every move. Naldo and Ariana were more worried than ever.

Ariana sat forward and asked, "What can Uland have in mind? He surely cannot believe Captain Gerda will do what he is asking."

"I don't understand that either," answered Naldo. "Nothing he asked for can be of any use to him."

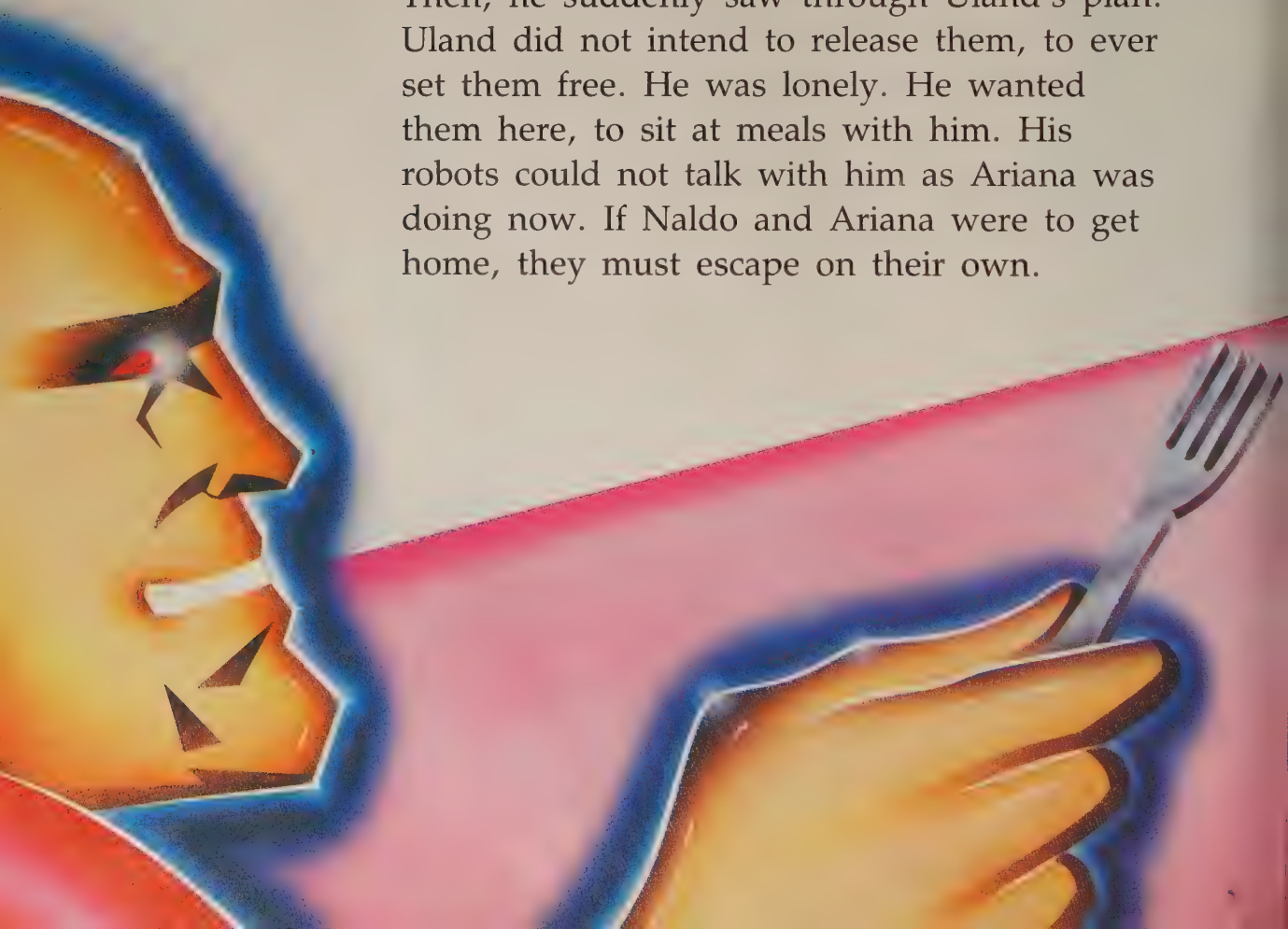
As Naldo spoke, Uland's face appeared on the screen. "I wish you to dine with me," he said. "The robots will lead you to the dining room."

At the bottom of the page, there is a partial illustration of two children, a boy and a girl, looking up at the screen. The boy is on the left, with dark skin and short black hair, wearing a red shirt. The girl is on the right, with light skin and blonde hair, also wearing a red shirt. They are both looking up towards the top of the page where the text is located. The background behind them is a light blue wall.

Uland and his "guests" entered the room. Naldo noticed that it was very nice, and he liked the music and sweet-smelling purple flowers in the center of the table. Their scent was sweet and the soft music made him tired. He began to feel relaxed.

Naldo shook himself. He could not be lulled, or tricked, into thinking that they were guests at a party. Uland had captured them. He was their enemy.

Naldo watched Uland pretend to be kind. Then, he suddenly saw through Uland's plan. Uland did not intend to release them, to ever set them free. He was lonely. He wanted them here, to sit at meals with him. His robots could not talk with him as Ariana was doing now. If Naldo and Ariana were to get home, they must escape on their own.





As the meal was being served, Naldo studied the robot. Its body was thin metal, and it was shaped like a bullet. In the center was a long, thin opening covered with a wire screen. "That must be where the control center is," thought Naldo. Naldo wondered if pushing something into the long opening would damage the robot.

When he finished eating, Naldo quietly slipped the spoon up his sleeve. Nobody noticed that the spoon was missing.

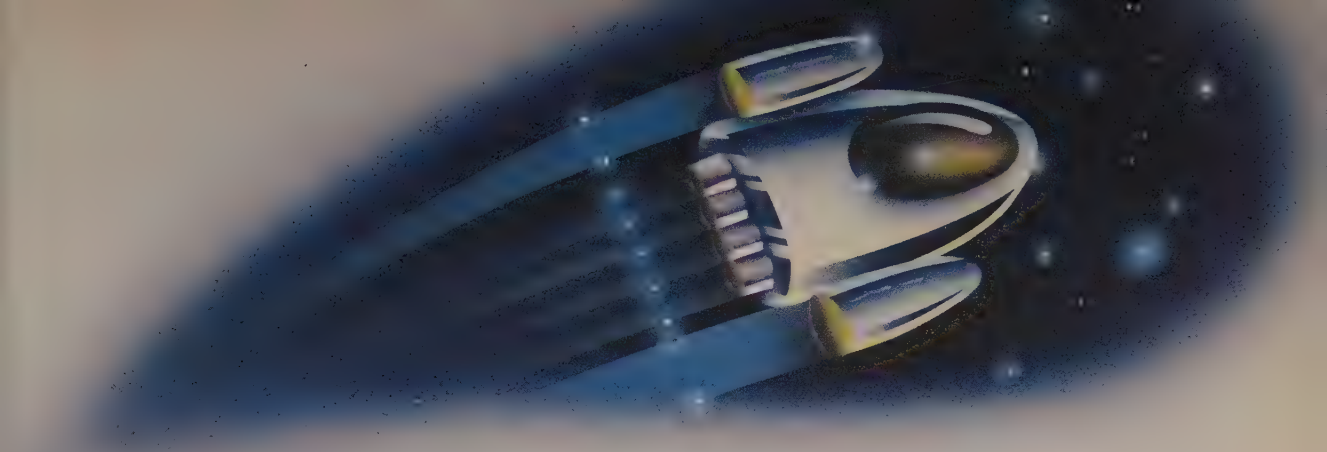


Only one of the robots led Naldo and Ariana back to their rooms. This was a break, a lucky chance, Naldo had not counted on. As they turned a corner of the hall, Naldo slipped the spoon down into his hand. Suddenly he whirled and jammed the spoon through the wire screen into the robot's control center. Instantly the robot froze.

"Run!" Naldo yelled. Ariana and Naldo raced down the hall. They turned at the corner and then looked back. The robot was making an angry noise, but it could not move forward.

They rushed along the way they had come. When they reached the door to the outside, Naldo passed his hand three times over the lock as he had seen the robot do. The door slid open, and they were through it. Then Ariana and Naldo rushed for the shed where the spaceships were kept.





"So far, so good," Naldo said.

"How did you know you could stop the robot?" Ariana asked as she ran beside him.

"I didn't know, I took a chance, Uland must have figured out by now that we're gone. We must get a spaceship."

Only one ship was parked inside the shed. Ariana slid into the seat behind the control board. Naldo started to jump into the ship beside Ariana.

"Look!" cried Ariana. Two robots were rushing toward them. As Naldo pulled his leg in, one of the robot's hands touched the ship. Then the motor churned into life and the ship began to lift and move forward.

"Get her out and up!" Naldo cried as he saw a second robot grab the tail of the ship.

Ariana moved the switch to "Full Speed." The ship pushed forward. Naldo saw the second robot fall off.

"We're away!" he cried.



"The controls are set for home!" said Ariana.

"Let's see what Uland is up to," said Naldo. He moved the controls of the screen. Uland's face appeared.

"Come back at once!" Uland rubbed a shaking hand across his mouth. "Come back, I say!"

"You know we will not come back," Naldo told him. "You cannot make us your friends."

"But I need you." There were tears in Uland's eyes. "I am so lonely." Then his jaw set. His voice became hard. "I must be obeyed."

"Uland," Naldo said, "you can order your robots to obey, but you cannot order us."

"What am I to do?" Again Uland's voice shook.

"We will return when you can treat us like friends, not like hostages, or prisoners."

"Is it possible?"

"I think so. We'll talk about it—but long distance," answered Naldo.

Uland put his hands to his head. His picture began to fade. Naldo thought he saw Uland nod.



## Checking Comprehension and Skills

1. What was Naldo and Ariana's problem?
  2. How were Naldo and Ariana captured? (158)
  3. Tell the demands that Uland made to Captain Gerda. What clue words helped you answer? (159–160)
  4. Was Captain Gerda afraid of Uland? Why do you think as you do?
  - 5. What could Uland find out by putting cameras in Naldo and Ariana's room? What clue words helped you answer? (161)
  - 6. What effect did Uland hope the dinner would have on Naldo and Ariana? (162)
  7. Why did Uland capture Naldo and Ariana? (162,166)
  8. Did Naldo and Ariana escape from Khrona? How do you know? (165)
  - 9. Reread the last paragraph on page 162. Find the sentence with the word *release* in it. What other words in the sentence tell you what *release* means?
  - 10. Reread the first paragraph on page 164. Find the sentence with the word *break* in it. What other words in the sentence tell you what *break* means?
- 
- Cause and effect relationships
  - Context: Unfamiliar words





## Strange Things in Space

You probably know what “junk food” is. But have you ever heard of “space junk”? Is there such a thing as a “falling star”?

There are fascinating things out there in space. There are millions and millions of stars and bits of dust that do strange things when they enter the earth’s air. There is even a special star that you can never see at night.

What are these strange things out there in space?

# Seeing Stars

You can learn quite a bit about the stars just by looking at them. You can watch the stars and make a map of where they are in the sky. But because Earth moves around the sun, you see the stars in a little different place in the sky each night.

The stars are very far away. To really study them, you need to use something to make them seem closer. Binoculars and small telescopes are very useful. They make the stars look larger and closer.

If you go to a planetarium, you can see a program that will show you how the stars move in the sky. You will also learn other things about stars, such as the names of some of them, and their size and color.



Astronomers, people who spend their lives studying stars, use very large telescopes. These are in observatories that are almost always built high on mountains away from city lights. The air there is thin and free from dust, so it is very clear. The stars can be seen more easily.

### ***Sharpen Your Skills***

A **cause** is why something happened. An **effect** is what happened. When you read an article, ask yourself what happened and why it happened. Remember that sometimes clue words, such as *because* and *so*, may be used. Sometimes there will be no clue words.

1. The stars are seen in a different place each night. What is the cause for this? What clue word helped you find the answer?
2. The air is clear on mountains. What effect does this clear air have when people are looking at the stars?

As you read the following articles, look for what causes "falling stars" and why the sun is yellow.



Observatory



# What Is a Meteor?

You know that there are stars and planets in space. You might think that there is nothing else there. That is not so.

In space there are dust and rocks of all shapes and sizes. Some people call these things “space junk.” This space junk cannot be seen most of the time from Earth since it is too small. Most space junk is about the size of a grain of sand. However, some of the rocks are quite large.

## **meteoroid**

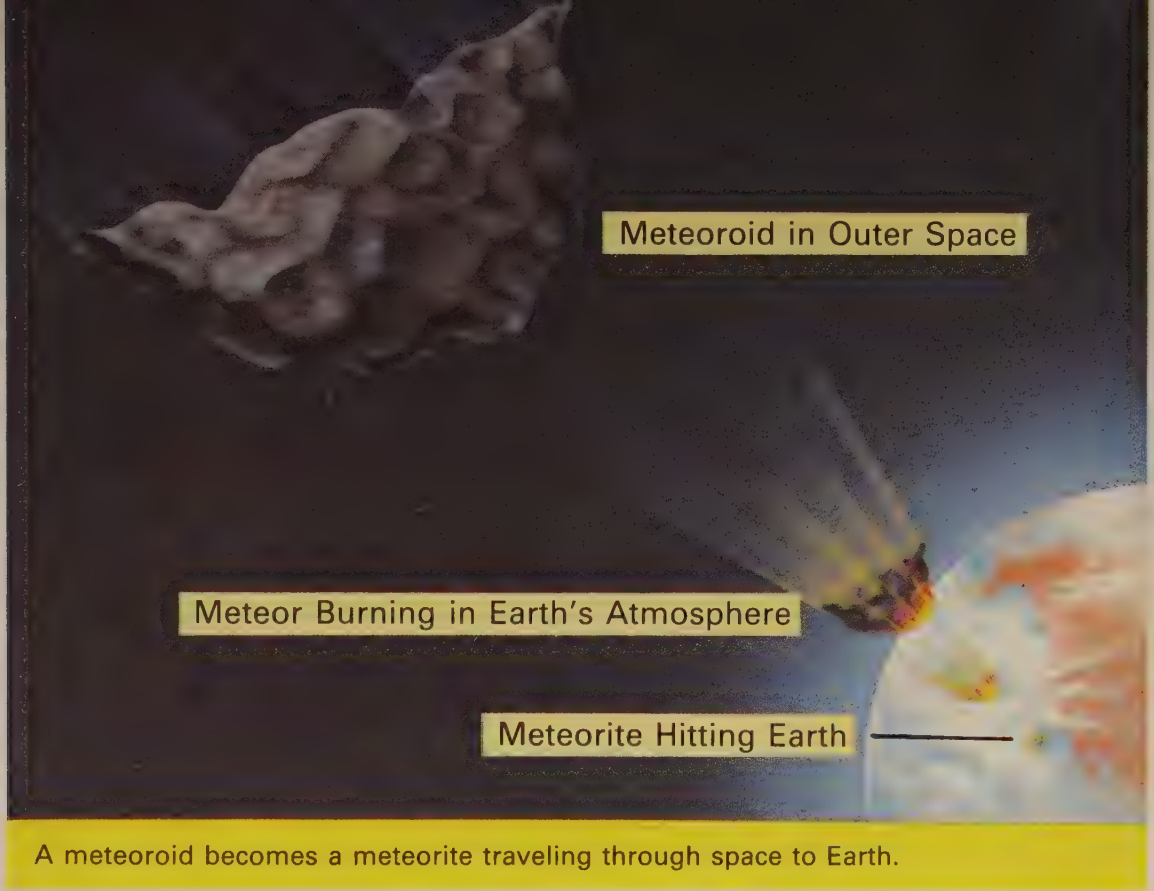
(mē'tē ə roid'),  
any of the many  
bodies that travel  
through space  
and become  
meteors when  
they enter  
Earth's atmosphere

**meteor** (mē'tē ə),  
mass of rock that  
enters Earth's  
atmosphere from  
outer space with  
great speed

## **When Does a Meteoroid Become a Meteor?**

The rocks and the dust are called **meteoroids** as long as they stay above the earth's atmosphere.

But some of these meteoroids, this space junk of rocks and bits of dust, come close enough to Earth to enter its air. When this happens, a meteoroid is called a **meteor**. It gets hot and begins to burn and glow. From Earth, a meteor looks like a bright line of light. If you happened to see it, you would call it a falling star.



More than two hundred million meteors enter Earth's air every day. They can be from 25 to 80<sup>1</sup> miles above Earth. Most of them are not seen because they are too small to glow very brightly or to reach Earth.

### When Does a Meteor Become a Meteorite?

Some meteors do not burn up before reaching the ground. They are too big. One that hits Earth's surface is called a **meteorite**.

**meteorite**  
(mē'tē ə rīt'),  
meteor that has  
reached Earth  
without burning up

---

1. about 40 to 128 kilometers

Meteorites can tear out craters where they land. A crater is a hole in the ground shaped like a bowl. It may be very small or it may be very large. Scientists believe that Meteor Crater in Arizona was formed when a meteorite hit there about 50,000 years ago. The hole is so large it would take you a few hours to walk around it.

Meteorites and their craters have been found in many places in the world. Most meteorites fall where no one lives. But once in a great while, one will fall near people. In 1982 one fell through the roof of a house in the eastern part of the United States. No one was hurt. In fact, no one has ever heard of anyone being killed by a meteorite.

Meteor Crater in Arizona





# Our Sun: *A Special Star*

Often on a clear night you can see thousands of stars in the sky. The stars you see are only a few of the stars in space. Stars make the night beautiful. One star makes the day beautiful. This special star is our sun.

The sun is very important to Earth. Because of the sun's heat and light, Earth is able to support life. Without the sun, Earth would be so icy nothing could live on it.

Our sun, like all stars, is a ball of hot, glowing gases. We think it is very big, but our sun is a medium-sized star.

Even though the sun is the star closest to us, it is still very far away. Light travels at a speed of about 186,000<sup>1</sup> miles a second. But because the sun is so far away, it takes sunlight about 8 minutes to reach Earth.

Since the sun is a star, people can learn all kinds of things about it by studying other stars. They have learned that stars have different temperatures and colors. Blue stars are the hottest. Red stars are the coolest. The sun has a yellow color because it is a star of medium temperature.

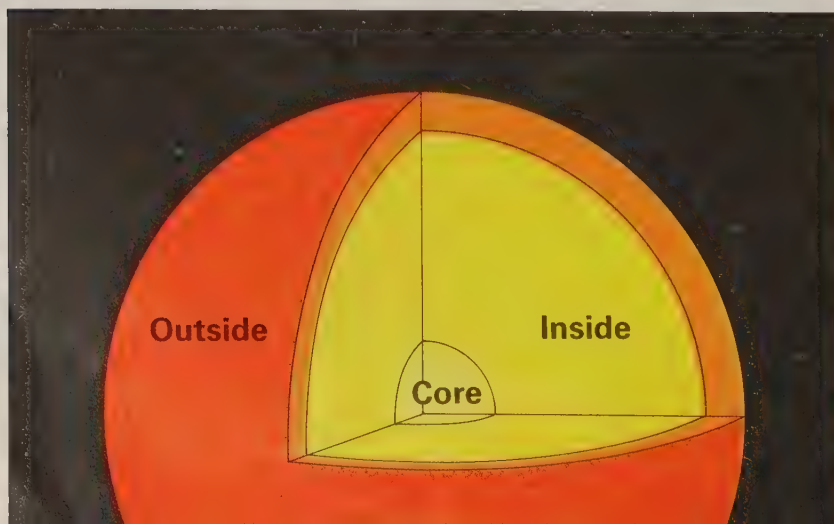
---

1. about 300,000 km

The drawing on this page shows that stars, such as the sun, have layers like an onion. The inside part is called the **core**. Energy from the core heats up the outer parts. The heat moving to the outside layers makes them glow. This glow is the light you see.

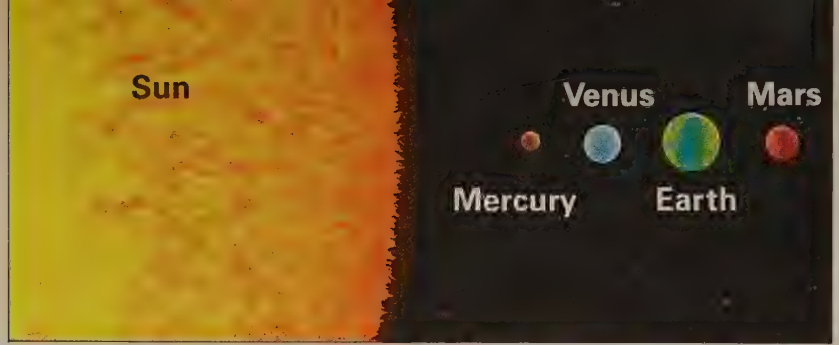
Scientists who study the sun think that it formed about 5 billion years ago. They also think that, in another 5 billion years, the core of the sun will squeeze more closely together. This squeezing will give off huge amounts of energy. This will heat the outside of the sun and make it spread apart. As a result, the sun will look very different.

The sun will become a giant star and be much larger than it is today. The sun could reach all the way to Mercury, and then reach past Earth to Mars. As the sun grows larger, it will cool. This cooling will make the sun look red instead of yellow. When this happens, the sun will be called a **red giant**.



Parts of Our Sun

Our Sun Today



Our Sun as a  
Red Giant  
Engulfing Earth



Scientists believe that, for a few billion years, our sun will be a red giant. The red giant will continue to grow larger until it blows off its shell.

After a red giant blows off its shell, only the core will remain. Then the core will cool and squeeze to become a small star called a **white dwarf**. A white dwarf is the core of a red giant that has blown off its shell and then cooled. As time passes, a white dwarf will continue to cool and therefore become dimmer and dimmer. Finally, long from today, it will stop shining.



## Checking Comprehension and Skills

1. What are meteors? (172)
  2. Which definition tells what a meteorite is? (172–173)
    - a. rocks and dust that stay above Earth's atmosphere
    - b. a meteor that has reached Earth without burning up
  - 3. A crater is a hole in the ground. What can cause a crater? (174)
  4. Are meteorites dangerous? Why do you think as you do? (174)
  5. Why is the sun a *special* star? (175)
  - 6. Scientists believe the sun's core will squeeze more closely together in the future. What effects will this have on the sun? What clue words helped you answer? (176)
  7. Will the sun become a red giant before or after it becomes a white dwarf? (176–177)
  - 8. Find the word *core* in the first paragraph on page 176. What is the core?
  - 9. Find the words *white dwarf* in the last paragraph on page 177. What is a white dwarf?
- 
- Cause and effect relationships
  - Context: Unfamiliar words

## How to find

# The North Star

The pole star, Polaris, is often called the North Star. This star is almost directly above the North Pole. As Earth turns, the pole star seems to stay in the same place.

It is fairly easy to find the North Star. But you can see it only if you live north of the equator.

Look at the map of the northern sky below.



Find the groups of stars called Big Dipper, Cassiopeia,<sup>1</sup> and Little Dipper. The North Star is the end star in the handle of Little Dipper. Notice how certain stars in Cassiopeia and Big Dipper seem to point to the North Star.

Ask someone to go star watching with you and find the North Star.

1. Cassiopeia (kas'ē ə pē'ə)

# Check Yourself



The couple in the picture have run into trouble. They aren't alone. Everyone who reads runs into a problem from time to time. But good readers can cut down on their problems. They know how to check themselves.

One way to check yourself is to stop to ask yourself questions as you read. Here are some questions you can use to check yourself.

Does this make sense to me?

What are the main points?

Are there parts I should reread slowly?

Are there any words I don't know? Do I need to look them up in a dictionary?

All readers have trouble sometimes. But you'll have fewer problems if you check yourself as you read.



## Section Five

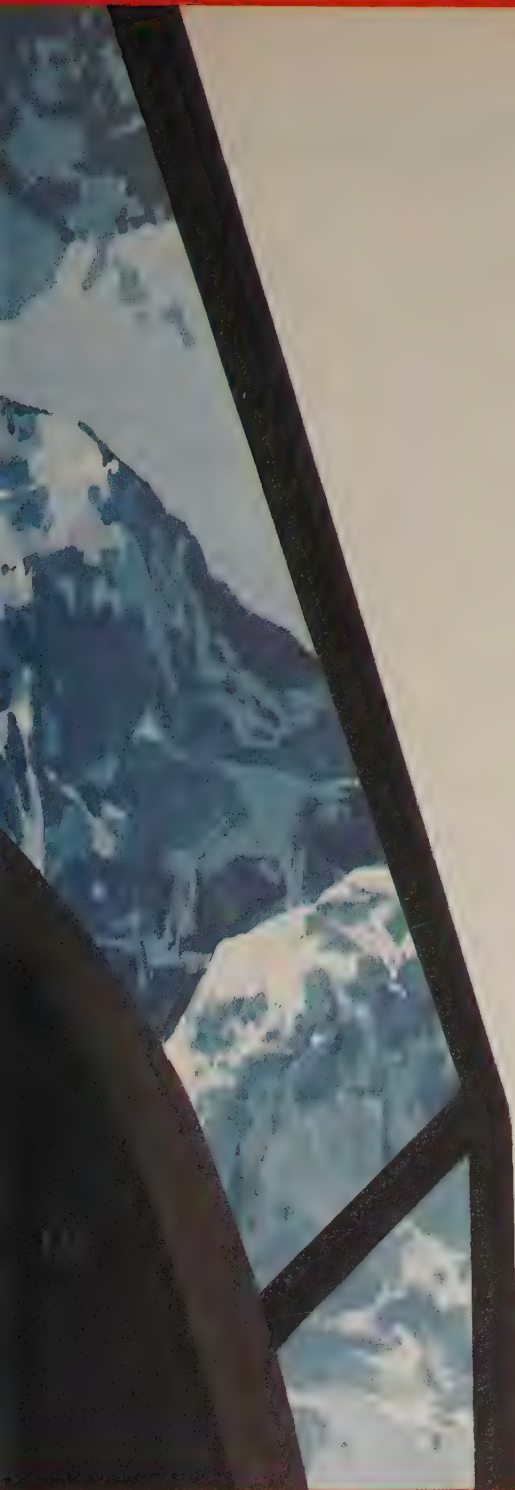
# MOUNTAIN ADVENTURE



Flyers Trapped on Icy Mountain Pass 182–195  
Mountain Climbers Train for Danger 196–207  
Strange Shadows Lurk in Mountains 208–222







The time is more than fifty years ago. You are one of the bravest people of your day. You are a pilot flying in mountains.

Your plane is driven by propellers. The plane is small and not very powerful. It is easy to lose the lift, or force, that keeps an airplane up. For your plane, mountains spell danger. There is always the chance that your plane cannot stay high enough. You might crash in the mountains.

Picture this scene in your mind. You sit in the cockpit. A giant chain of mountains rises ahead. You admire the purple stone and the gleaming white snowcaps on the peaks. Yet you know this beauty can also be a trap. Your body tenses. You check your instruments. You grip the controls. Will you be able to ride the wind safely over the peak? If you crash into a mountain, will you get out alive?



## Understanding Idioms

Mr. Fox was trying to build a cabin in the mountains. But as you can see, he was *all thumbs*. Do you think that means Mr. Fox had ten thumbs on his hands? That would certainly make it hard to build something! But as the picture shows, Mr. Fox's hands look fine. *All thumbs* just means "clumsy." Words don't always mean exactly what they say.

### Sharpen Your Skills

The words *all thumbs* are called an idiom. An **idiom** is a group of words whose meaning is different from the usual meanings of each of the words. People often use idioms to describe something in a colorful or interesting way. To figure out what an idiom really means, look at the other sentences around it. If you can understand those sentences, you can usually understand the idiom.

Read the sentences at the top of page 185. Try to figure out what the underlined idiom means in those sentences.



Lupe was daydreaming. She wasn't listening to the teacher. The teacher's words went in one ear and out the other.

Did the sentences before *in one ear and out the other* help you understand what that idiom means? It means that Lupe was not really listening to the teacher.

Read the five examples below. Tell what each underlined idiom means. Look for clues in the examples to help you.

1. When Ann found out her family was taking a trip to the mountains, her face lit up. She felt very happy.
2. Ann was on cloud nine. She loved going to the mountains and staying in a cabin.
3. Ann's mother dropped Pesky the dog off at a friend's house. She would be busy driving, so she didn't want Pesky in her hair.
4. She was a good driver so she didn't blow her top even though the road was slippery.
5. When the family finally reached the cabin, they stopped to pull themselves together. Soon they all felt ready for a good time.

You'll find idioms in your reading. Remember to use the sentences before and after to figure out what each idiom really means.

# Crash!

by Phil Ault

*In 1924 four planes took off from Seattle, Washington, to make the first flight around the world. One of the planes, the Seattle, developed engine trouble. But soon pilot Frederick Martin and mechanic Alva Harvey were airborne.*

Martin and Harvey had been told about a shortcut and flew inland instead of following the settlements along the coast. A heavy snow was falling. Suddenly they both saw a rocky side of mountain so close that there was no time to turn. The *Seattle* crashed into the mountain.

Martin and Harvey were still alive, but they had little hope of being saved. They knew they must stick together and make it on their own.

They built an igloo from blocks of snow, and rested for two days until the weather cleared. Then they headed for the coast. There they found a trapper's cabin stocked with food. Harvey was suffering from snow blindness. They rested there for two days.



Thinking about what might happen next in an article is called **making predictions**.

Base your predictions on what you know about the people and the situation in the article.

1. Do you think Martin and Harvey will find help? Why do you think as you do?
2. Do you think Martin will have to leave Harvey behind? Why or why not?

Martin and Harvey walked along the shore, looking for a settlement. The exhausted men were seen by Eskimos in a fishing boat. The Eskimos took them on board and carried them to a cannery farther along the coast.

Martin and Harvey had been given up for dead. There was great rejoicing when a radio message from a far-off cannery told the world that they were safe.

### ***Sharpen Your Skills***

Were your predictions correct? If not, what details could you have used to help you make better predictions?

Look for details in the next story to see if you can predict what the men might do when their plane crashes in the cold and remote Andes Mountains.

*Today modern jets fly high enough to cross the Andes Mountains of South America with room to spare. But in 1929, French pilot Jean Mermoz must find a mountain pass low enough for his less powerful plane to slip through. He and his mechanic, Collenot, are trying to set up an airmail route from Chile to Argentina.*

## On the Plateau of the Three Condors



by Sherwood Harris

The plane is flying as high as it can. The engine barely has enough power to keep the plane at almost fourteen thousand feet.<sup>1</sup> Every time Mermoz starts a turn he feels a shudder, warning him that his wings are about to lose their lift.

---

1. about 4 km

The green plains of Chile, dotted with lakes and rivers, are behind the plane to the west. The plains stretch down to the deep blue of the Pacific Ocean. Ahead are the snowcapped peaks of the Andes Mountains. The pilot can see sharp peaks rising up over twenty thousand feet.<sup>1</sup> Below, he sees dead-end canyons with steep walls and rock-covered floors. "I don't stand a chance if I ever get trapped in one of those canyons," he thinks.

Mermoz continues his wide, slow circles, fighting for every inch of height. "There must be a way through the mountains," he keeps repeating to himself. He looks inch by inch for a pass through the peaks.

He spots a pass above him. As he circles before the pass, he feels his plane rise. But the plane begins to sink again.

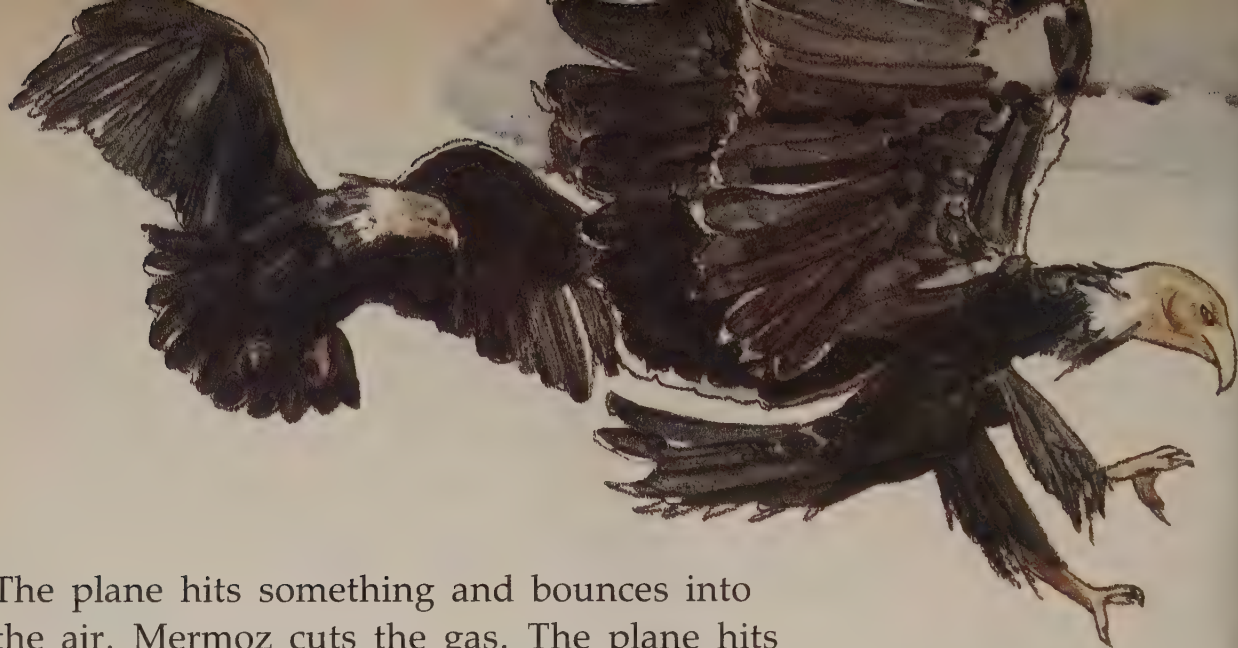
Then a powerful wind lifts the plane again. Mermoz points the nose of the plane toward the pass. The wind is strong and it lifts him safely into the pass. Ahead he can see a way through the mountains.

Suddenly he hits a downdraft, and the plane begins to fall. Sharp fingers of rock reach up for him. Steep cliffs speed past his plane as though he were in a glass elevator going down.

---

1. about 6 km





The plane hits something and bounces into the air. Mermoz cuts the gas. The plane hits again and bounces down a rocky slope until it comes to rest on a tiny plateau.


Mermoz is not hurt. He glances back and sees that his mechanic, Collenot, is also all right. The two men climb out of the plane and are shocked by what they find. The plateau on which they have landed is the only flat surface as far as they can see. All is silent except for the sighing of the wind. Though it is noon, it is cold. It is far below freezing. There is snow on the ground.

Their first look at the damaged plane is discouraging. The fuselage is smashed, the landing gear is broken, and the tail skid has been broken off.

"Can we fix the plane?" Mermoz asks.

"No, I'm afraid not," Collenot answers.

"Well, let's start walking!" Mermoz says.



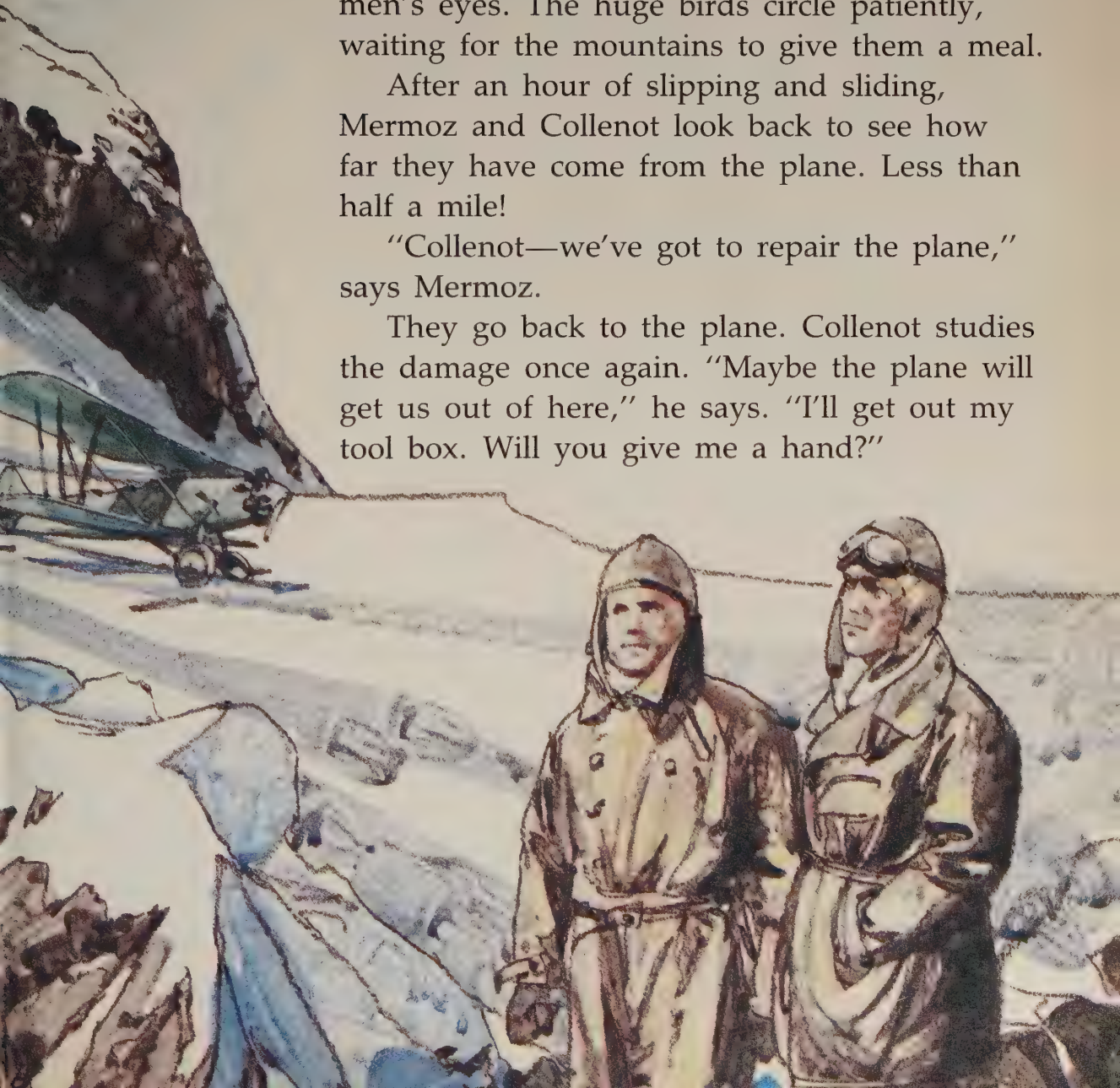
Slipping and sliding in the rocks and snow, Mermoz and Collenot head down a slope toward the west, figuring that their best chance of finding help lies in the direction of Chile.

Overhead are three condors that catch the men's eyes. The huge birds circle patiently, waiting for the mountains to give them a meal.

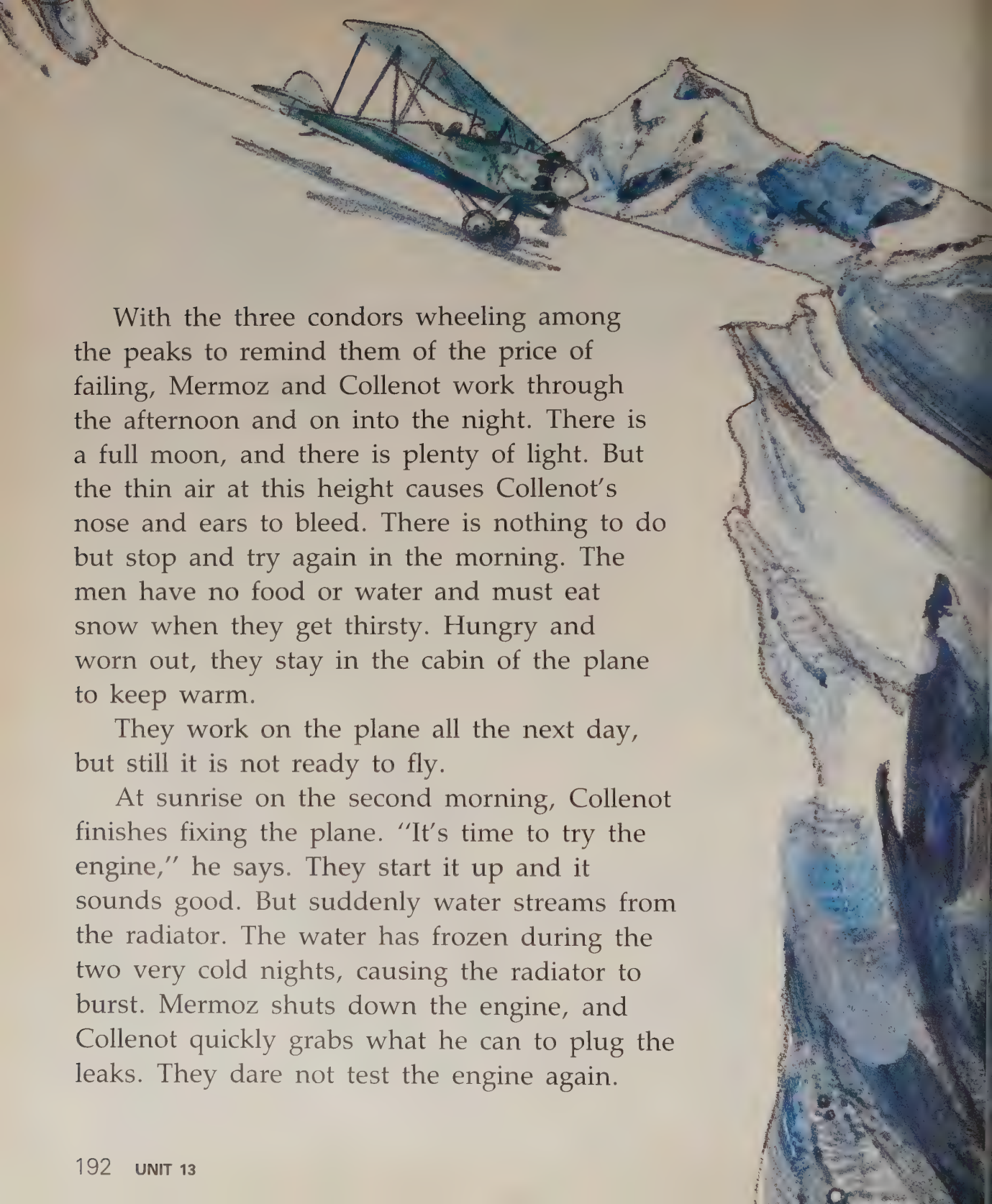
After an hour of slipping and sliding, Mermoz and Collenot look back to see how far they have come from the plane. Less than half a mile!

"Collenot—we've got to repair the plane," says Mermoz.

They go back to the plane. Collenot studies the damage once again. "Maybe the plane will get us out of here," he says. "I'll get out my tool box. Will you give me a hand?"







With the three condors wheeling among the peaks to remind them of the price of failing, Mermoz and Collenot work through the afternoon and on into the night. There is a full moon, and there is plenty of light. But the thin air at this height causes Collenot's nose and ears to bleed. There is nothing to do but stop and try again in the morning. The men have no food or water and must eat snow when they get thirsty. Hungry and worn out, they stay in the cabin of the plane to keep warm.

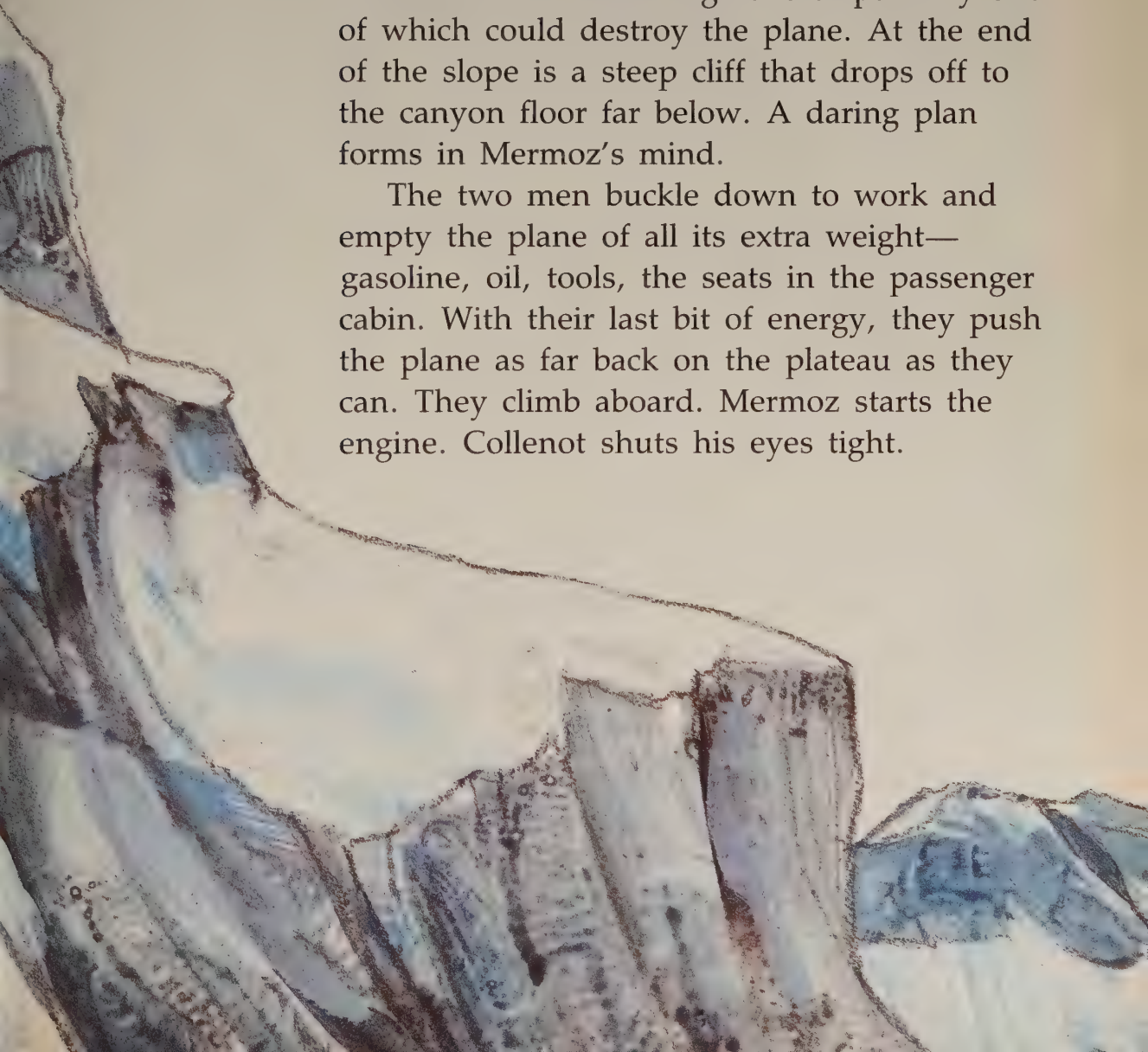
They work on the plane all the next day, but still it is not ready to fly.

At sunrise on the second morning, Collenot finishes fixing the plane. "It's time to try the engine," he says. They start it up and it sounds good. But suddenly water streams from the radiator. The water has frozen during the two very cold nights, causing the radiator to burst. Mermoz shuts down the engine, and Collenot quickly grabs what he can to plug the leaks. They dare not test the engine again.



Mermoz studies the plateau. The plateau is very high. At this height the engine will not have enough power to make a normal takeoff. The plateau slopes downhill, and this will help. But there are three places in the slope that make the slope look like a terrifying staircase with three dangerous steps—any one of which could destroy the plane. At the end of the slope is a steep cliff that drops off to the canyon floor far below. A daring plan forms in Mermoz's mind.

The two men buckledown to work and empty the plane of all its extra weight—gasoline, oil, tools, the seats in the passenger cabin. With their last bit of energy, they push the plane as far back on the plateau as they can. They climb aboard. Mermoz starts the engine. Collenot shuts his eyes tight.



The plane gathers speed down the slope. It hits the first step. The landing gear holds. The plane is trying to fly now . . . the second step . . . landing gear still holding . . . the third step . . . the edge of the cliff is coming up . . . still not in the air.

As the plane goes over the cliff, Mermoz points its nose down and it falls free. He holds it in a dive—down . . . down . . . down—until he gains flying speed. Slowly and carefully he pulls the nose up and starts a turn.

He has plenty of flying speed now, and he works his way out of the canyon. His dangerous plan has paid off. He did not give in to his fears. Mermoz flies into the pass which had brought him into the heart of the Andes, and coasts down the green plains of Chile.

*Mermoz arrived back at the field from which he started more than two days before. The French pilots who knew how brave Mermoz was believed his story. But most people who heard his story could not believe that Mermoz was able to get out of the mountains safely. An expedition was sent to the spot where the plane had gone down. The cabin seats and other things that had been left behind were found. The incredible story was true.*

## Checking Comprehension and Skills

1. Why are the Andes Mountains dangerous to Mermoz and Collenot? (188–189)
2. What happens to the plane when Mermoz hits the downdraft? (189–190)
3. What is the first thing the men decide to do to solve their problem? Why? (190)
4. How do you think Mermoz and Collenot felt when they saw the condors overhead? (191)
5. Why did Mermoz decide they had to try to fix the plane? (191)
- 6. Did the men fix the plane? Did you predict they would? Why or why not?
7. What difficulties does Mermoz see as he looks at the plateau? (193)
8. Why was pointing the nose of the plane down important in Mermoz's plan of escape? (194)
- 9. Did Mermoz and Collenot get out of the Andes Mountains? (194) Did you predict that they would? Why or why not?

Tell what each underlined idiom means.

- 10. The two men had to fix the plane, so they buckled down to work.
- 11. Mermoz did not give in to his fears about flying the plane over the plateau.

- Predicting outcomes      ◦ Context: Idioms





# Dangerous Climbs



You look up. You are staring at a huge mountain of icy rock that rises thousands of feet into the air. Already the wind is so cold it seems to cut your face.

You remember the months of training you went through—hours of hard exercise to make your body strong for this climb. You remember, and check off in your mind, all the equipment you so carefully packed—warm clothes, food, a cookstove, tent, ropes, and the oxygen tanks.

Did you forget anything? No. The challenge of the mountain stands before you now. An avalanche could happen at any time. Will you make it to the top?



# Avalanche!

Avalanches are giant masses of snow and ice that go roaring down mountains when too much snow has piled up. Avalanches move very fast. They can go 240 miles<sup>1</sup> an hour. In minutes they can knock down large trees and buildings and push trains off their tracks.

Avalanches can be so terrible that it is hard to believe that anyone would want to cause them. Yet there are people who do just that. They set off small avalanches to break up piles of snow that otherwise would form huge and dangerous avalanches.

There are ways to tell where an avalanche might start. The weather and the pack of snow are two things that are watched. In some places instruments are used to listen to the sound of the snow. Sometimes noise begins several hours or days before the snow begins to slide.

---

1. about 386 km





Some of the people who start avalanches ski to places where dangerous amounts of snow have piled up. When they find a trouble spot, they plant explosives in the snow and set them off to make the snow slide down the mountain safely. Sometimes the trouble spot is not safe for skiing or is too hard to get to. Then the explosives are thrown from helicopters. Sometimes old war guns are used to blast the snow. There is also a machine that can shoot the explosives into snow from far away.

### ***Sharpen Your Skills***

Authors may give you facts or details that you can use to develop your opinions—draw your own conclusions. Remember to use your common sense as well to help you draw your own conclusions.

1. What facts and details help you draw the conclusion that avalanches are dangerous?
2. Do the people who set off avalanches have safe jobs? What details help you to draw your conclusions?

Use the facts and details in the next articles to help you draw conclusions about real-life mountain-climbing adventures.

# CLIMBING

by Betty Russell

Some people graduating from high school receive a typewriter from their parents. But Mary Kate Heffernan's present was different. Her gift was the chance to climb a mountain. She had her heart set on climbing Mount Rainier, which is 14,420 feet high.<sup>1</sup> Mount Rainier is in the state of Washington.

Mary Kate's dad had been a mountain climber for a long time. He had promised Mary Kate that when she graduated from high school they would climb Mount Rainier together.

Four friends of Mary Kate's decided to join them. Two of Mr. Heffernan's friends would also go along to help carry the heavy equipment and lend their experience.

---

1. 4,359 meters



Mary Kate and her father.



Four months before graduation the climbers went into strict training.

After their training the group got sleeping bags, crampons, ice axes, and other equipment and supplies together. The group was now ready for their big adventure.

Mary Kate felt nervous as she stood at the foot of Mount Rainier on that day in June. She feared she would not have the strength to make it to the top, but she was determined to try.

"I stayed pretty close to Dad," she said, "and soon he was setting a pace: breathing, stepping, breathing, stepping. The regular pattern made it a lot easier. All of the views of Mount Rainier that I had seen in pictures were real now. That gave me the strength to keep going."

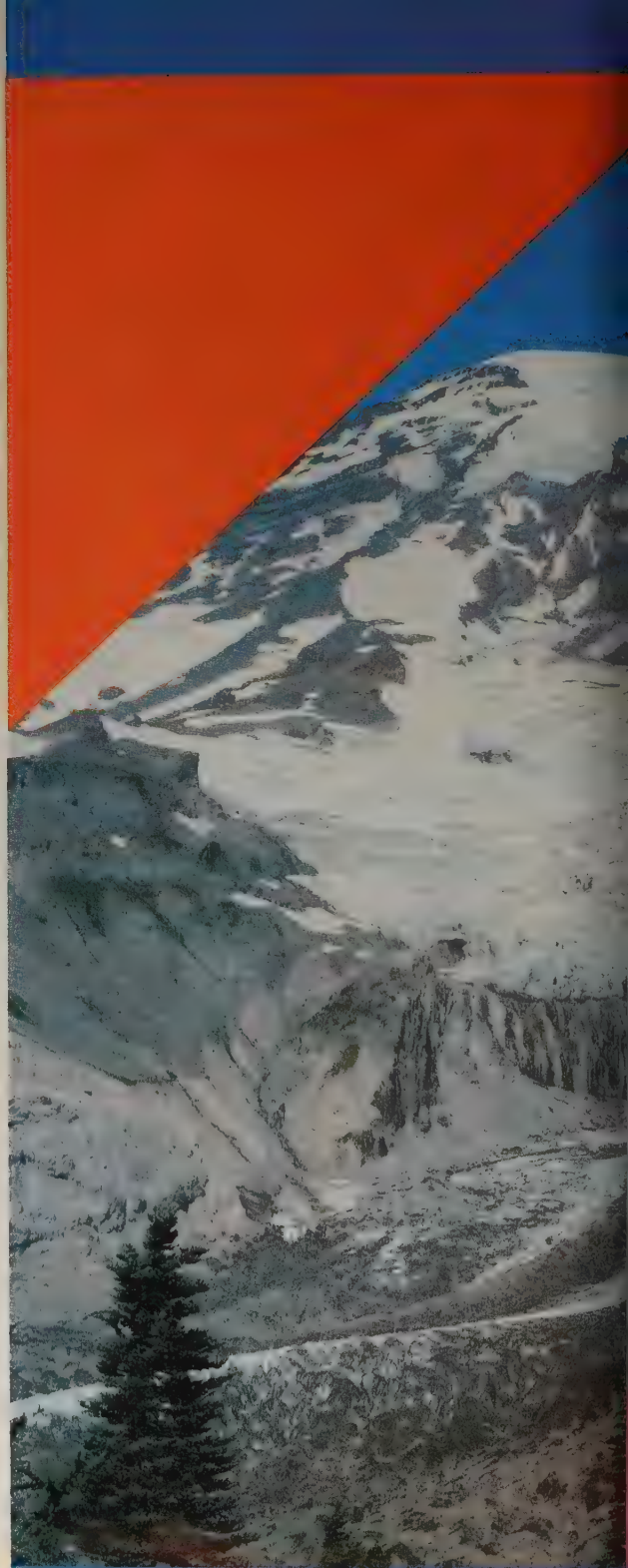


Everyone welcomed breaks to rest or eat. Since most of the food was freeze-dried, fresh candy bars were a treat. Some of the climbers spoke of how much they would like to have some huge sandwiches.

Thoughts of food disappeared as the group went on and the sights became more spectacular. The beauty of the land, glowing in the sunlight, was overwhelming. "You do a lot of thinking when you climb," one member of the group said later.

At one point, the group had to be roped together for safety. They also heard and saw their first avalanche, which sounded like thunder as it rushed down the middle of a nearby snowfield.

Then they came to a difficult stretch of loose stones and sand. It was becoming cold. They were tired. With each step they would slide back and scatter rocks and dirt behind them. The climb was touch and go.





By the time they made camp at 11,200 feet,<sup>1</sup> they were dead on their feet. Even the freeze-dried food tasted good. That night while they were in their tents they heard another avalanche. They were frightened, but they finally fell asleep.

The next morning they hoped to start before the hard snow began to melt. But it soon began to snow and hail. Mr. Heffernan said that it was too dangerous to go on. Mary Kate and her friends kept saying, "Come on, we can go and be back before it gets too bad." But her dad drew the line and refused to go on.

As the group went down the mountain, they were determined to try to climb to the top another year. They all agreed that the challenges and the risks had helped them learn more about themselves.

---

1. 3,413 m

# Up Sheer Ice

For most people, climbing a steep wall of rock is more of a challenge than they really want.

But for a few people, the only way to get a real challenge is to climb on steep sheets of ice.

You take all the dangers of mountain climbing—the height, the wind, the changing weather—and you transfer them to the treacherous world of ice. Ice. It's cold. It's slippery. It can be covered with water or be dry and hard. Ice climbers often have their hands full.

In fact, ice climbing is so dangerous that almost no one tried it until a few years ago. What finally made the difference was the use of special equipment. Climbers make a point of having the best equipment on hand.

Most important are crampons. These are metal plates that fasten to the bottom of climbing boots. Crampons have sharp spikes that can bite into the ice.





Mountain climbers have long used crampons to walk across ice fields. What makes an ice-climbing crampon different are the spikes that stick straight out from the front. Using these spikes, climbers can drive their feet straight forward into a steep wall of ice. These spikes hold the mountain climber up.

Ice axes are also important. By carrying an ax in each hand and jamming the point into ice, climbers can get a strong hold for their hands.

But ice is treacherous and there are sometimes close calls. A large piece can break loose as the ax point bites in. Or an avalanche can bring ice and snow crashing down on the climber. For that reason it is important to have a safety rope anchored to something.

Often the only thing to hold the rope is the ice itself. Climbers use holding devices that can be driven into the ice, where they will freeze into the surface and tightly fasten a rope.

## *Checking Comprehension and Skills*

1. What did Mary Kate have her heart set on? (200)
2. How did Mary Kate feel as she stood at the foot of Mt. Rainier? (201)
- 3. Why do you think climbers do “a lot of thinking” when they climb? (202)
- 4. Was the climb up Mt. Rainier easy or difficult? What details helped you draw your conclusion? (202)
5. Do you think Mr. Heffernan made the right decision to turn back? Why or why not?
6. Why did the climbers want to try to reach the top another year? (203)
- 7. What facts and details in “Up Sheer Ice” help you conclude that ice climbing is even more dangerous than mountain climbing? (204–205)
8. Why are crampons important? (204–205)
9. Where would you like to go mountain climbing? Describe what you would see.

Tell what each underlined idiom means.

- 10. Since ice is slippery and dangerous, ice climbers have their hands full.
- 11. Ice is treacherous and climbers often have close calls.

- Drawing conclusions
- Context: Idioms

# Fro-gurt

Climbing a mountain, playing outside, or having a busy day makes you hungry. Here is a recipe that tells you how to make a frozen treat.

## Frozen Yogurt on a Stick

- 3 8-ounce cups fruit-flavored yogurt
- 6 4-ounce paper drinking cups
- 6 sticks

Any kind of fruit that can be made to fit in the bottom of the drinking cups

1. Place a piece of fruit in the bottom of each cup. Use bananas, oranges, pineapples, grapes, or any fruit you like best.
2. Stir the yogurt and pour into the cups.
3. Place the six cups in a pan and place the pan in the freezer.
4. When the yogurt is stiff enough to hold the sticks up straight, place a stick in each cup, and let the yogurt freeze hard.
5. Eat and enjoy!







# **WARNING: DANGEROUS ANIMALS AHEAD**

Imagine you are hiking along a mountain trail. It is quiet, and you feel as if you are alone under the tall trees. You know, however, that there are wild animals all around you.

Perhaps you hear a strange noise in the bushes, or think you see an animal's shadow slipping through the trees. You wonder what kind of animal is watching you. You know that many of the animals in the mountains are harmless. However, animals such as bears and wildcats and certain snakes can be dangerous. So you are careful as you follow the path. You look about and listen. Did you hear something? Was it a bear? Suppose you met a bear? It might just go away—but then, it might not!



## *Dangerous Kittens*

Cara was visiting her cousins, Annie and Tom, who lived in Wyoming. Wyoming looked very different from the flat land in Kansas where Cara lived. In Wyoming there were mountains near Annie and Tom's home.

"It's a perfect day for a hike in the mountains," Cara said. "Let's go today."

Tom packed their lunches. Annie helped Cara pick the right shoes and clothes for the hike. They got an early start and were soon climbing the trail up the mountain.

At noon they stopped for lunch in a rocky spot high on the side of the mountain. Cara finished eating first. "There's a cave just above us!" she pointed out.

While Annie and Tom finished their lunches, Cara walked a few steps toward the cave. She wanted a better look. To her surprise, a furry head poked out and looked back at her. Then two other heads joined the first one. The animals looked like big, spotted kittens.

"Look!" Cara called. "Do you think somebody left their cats up here?"





Annie and Tom stood up right away.  
“Cara, walk slowly back over here. Don’t say anything. Just do it,” Tom said calmly.

Cara was puzzled. She wanted to watch the cats. But Annie and Tom led her quickly and quietly away from the rocky spot.

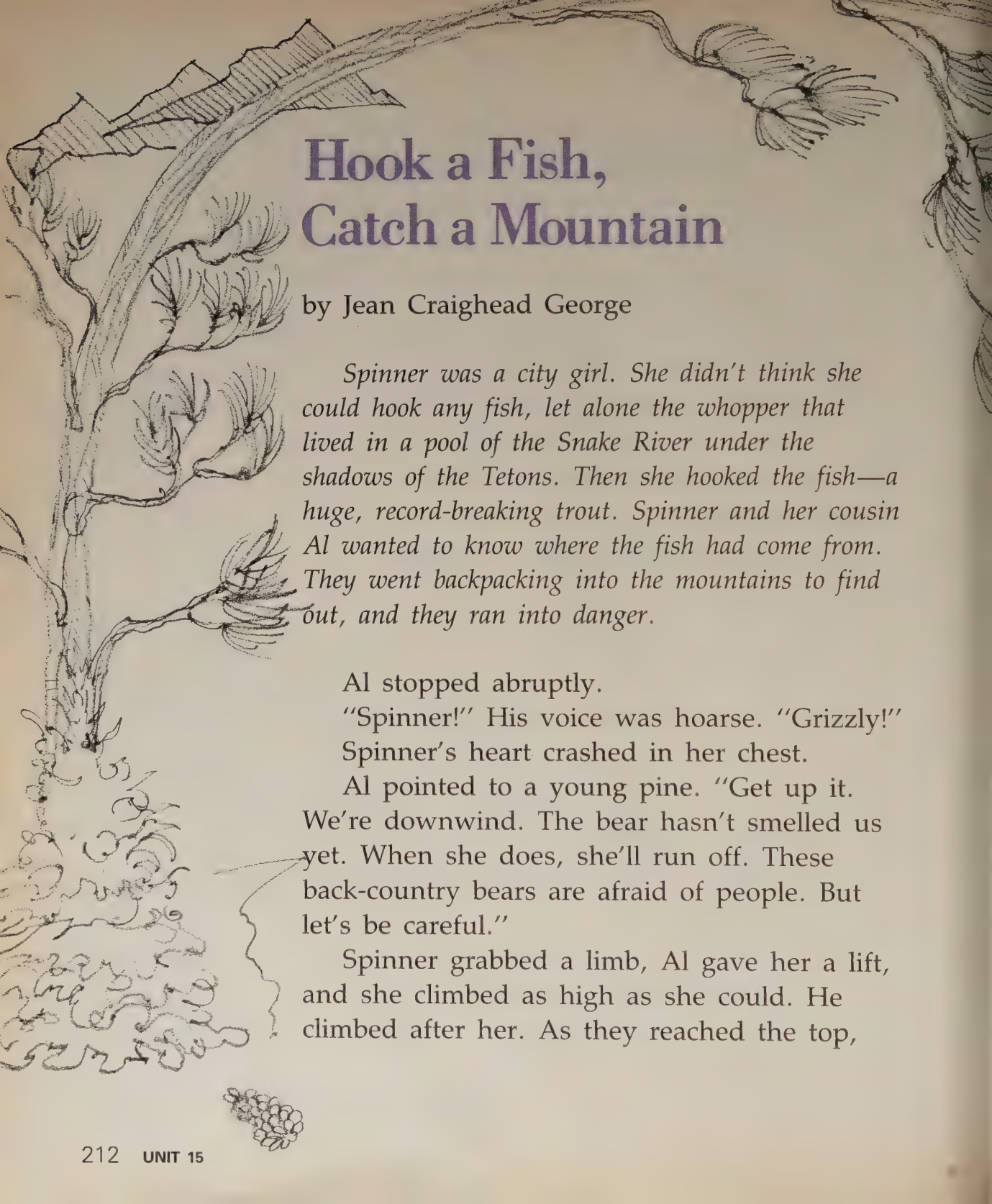
Then Annie explained, “Those kittens may have looked playful, but the adults can be very dangerous. Those were young mountain lions. Their mother was probably out hunting food for them. We don’t want to meet her!”

### ***Sharpen Your Skills***

As you read, you often have to figure out things for yourself. You must ask yourself questions about the facts and details in a story. These questions will help you draw conclusions about the article you just read.

1. How much knowledge of the mountains did Cara have? What details make you think so?
2. Did Annie and Tom know very much about the mountains? How do you know?

As you read the next story, ask yourself if Spinner will be able to conquer her fear of grizzly bears and bring help to Al.



# Hook a Fish, Catch a Mountain

by Jean Craighead George

*Spinner was a city girl. She didn't think she could hook any fish, let alone the whopper that lived in a pool of the Snake River under the shadows of the Tetons. Then she hooked the fish—a huge, record-breaking trout. Spinner and her cousin Al wanted to know where the fish had come from. They went backpacking into the mountains to find out, and they ran into danger.*

Al stopped abruptly.

"Spinner!" His voice was hoarse. "Grizzly!" Spinner's heart crashed in her chest.

Al pointed to a young pine. "Get up it. We're downwind. The bear hasn't smelled us yet. When she does, she'll run off. These back-country bears are afraid of people. But let's be careful."

Spinner grabbed a limb, Al gave her a lift, and she climbed as high as she could. He climbed after her. As they reached the top,



the tree bent and dipped, and Spinner and Al rode down toward the grizzly.

The bear did not run. Instead, the huge animal rose to her hind feet. Her fur shone, and her body loomed like a forested mountain. She walked toward the tree like a man, her front paws hanging. Her huge nose sucked in their scents.

The tree dipped lower. Now the bear's head was level with Spinner's boot. The bear snarled and lifted a gigantic paw. The tree shivered, reached its lowest point, and slowly began to climb upward. Then it started down again.

"Rooooaar," Al bellowed as they came down toward the snarling bear. The grizzly was startled, and for a moment she glared into Spinner's eyes. Her paws twitched. Al roared again. Slowly—taking a thousand years, it seemed to Spinner—the huge animal lowered herself to all fours, turned and trotted away.





Then she suddenly sniffed, turned, and rushed the tree. She struck the trunk with her huge paw. The overweighted tree cracked. It broke in half. Spinner grabbed Al and crashed to the ground with him. She fell on her shoulder and rolled to her knees. She looked for the grizzly. The bear was gone.

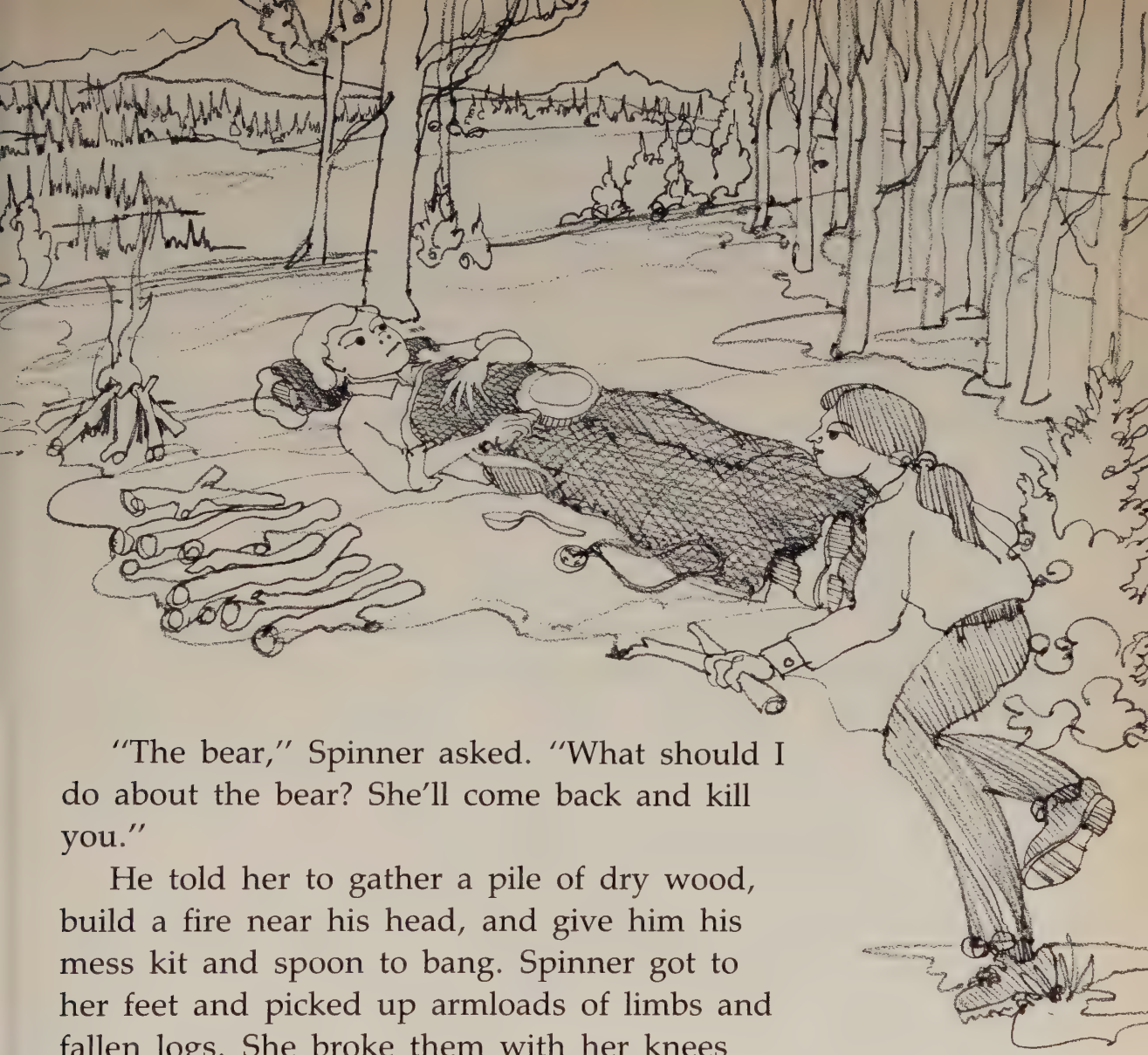
Al cried out. His voice was filled with pain. Spinner ran to him and with relief saw he was not ripped by the bear. But he was holding his leg.

"It's busted. I heard it snap," Al said under his breath. Spinner's heart raced. What would become of them? They could not move any farther. They would die.

Spinner eased the pack from Al's shoulders. She loosened his boots and opened his shirt. Finally she unrolled his sleeping bag, and now knew what she must do. She must go through the forest alone.

"I'll stuff the bag under you to keep you warm," she said, "and go for help." Then she pulled the top half over him.

"Now listen," Al told Spinner. "Follow the stream. You'll hit Crystal Creek. I'm sure of that. When you find Crystal Creek, follow it to the Red Rock Ranch. My friend Gunner lives there." Al rolled his head from side to side.



"The bear," Spinner asked. "What should I do about the bear? She'll come back and kill you."

He told her to gather a pile of dry wood, build a fire near his head, and give him his mess kit and spoon to bang. Spinner got to her feet and picked up armloads of limbs and fallen logs. She broke them with her knees and feet and piled them beside Al.

The sun had started down the western sky when Spinner shoved a big log into the flames. She put the last of the candy beside Al's hand, stood up, and looked down the mountainside.

"I'm off," she whispered.

Spinner ran for several minutes before the noises around her became too terrifying to endure. Grizzlies were everywhere. She hugged a tree and stared around, unable to go on. A branch snapped behind her and she fled back to Al.

"Al!" she called. There was no answer. She stumbled, fell, and saw the flame of fire behind a knoll. As she scrambled to Al, she saw the pain in his eyes. She could not tell him she had failed.

"Al," she said, "I'm going to take your notebook and compass. I'll make a map so we can find you quickly. It may be dark when I get back."

Al could only grit his teeth and nod. She took off her shirt, tore it into strips, and tied a piece around the tree at Al's head.

"That will shine even in the dark," she said. She wrote down the time and put "North" at the top of the page and an "X" for Al.

"I mark down a landmark where I am, take a reading on another landmark, and pace it off. Right?" He nodded. She picked a distant tree and took a reading on the compass.

"Now I count my steps to that tree and take another reading, don't I?"

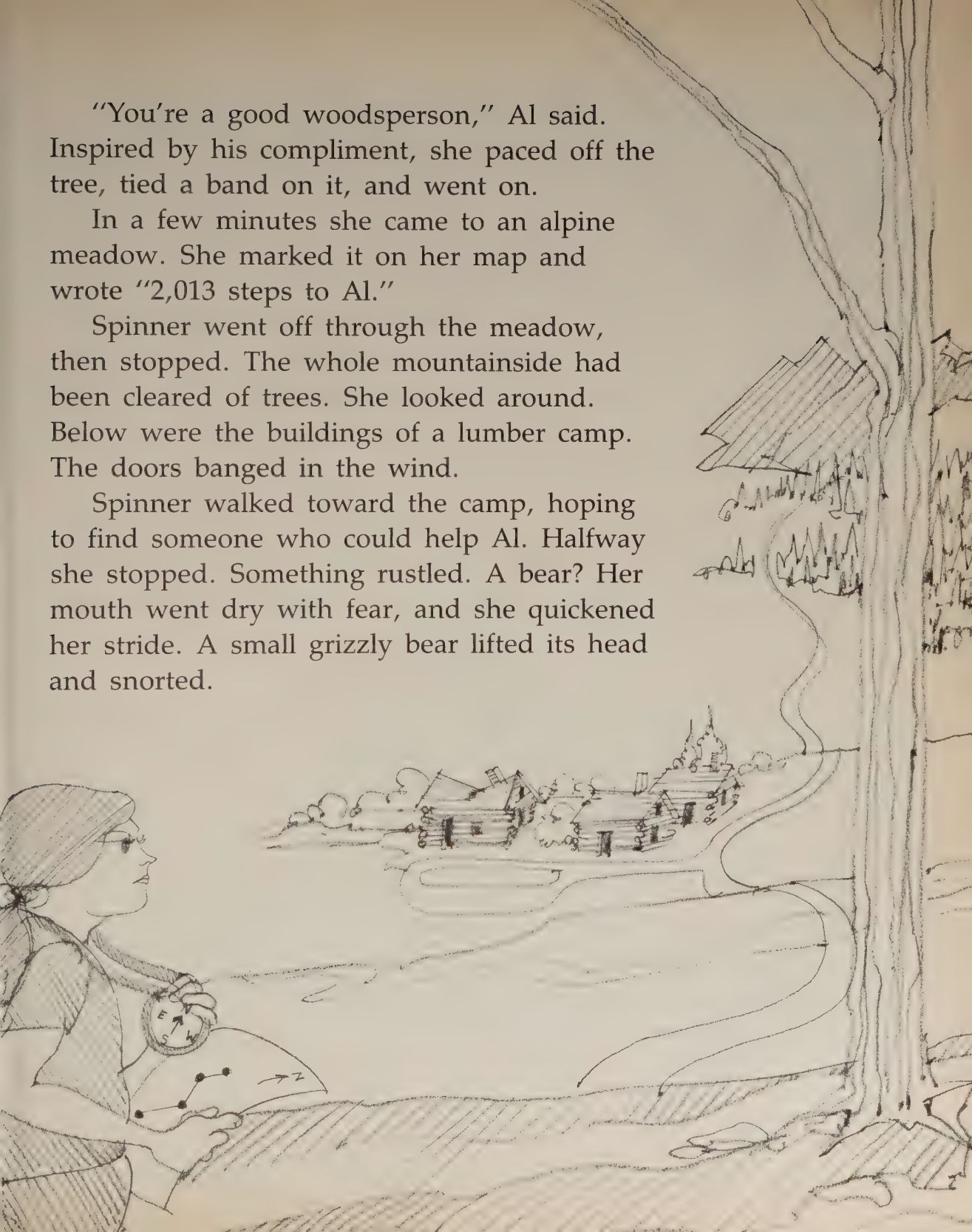


"You're a good woodsperson," Al said. Inspired by his compliment, she paced off the tree, tied a band on it, and went on.

In a few minutes she came to an alpine meadow. She marked it on her map and wrote "2,013 steps to Al."

Spinner went off through the meadow, then stopped. The whole mountainside had been cleared of trees. She looked around. Below were the buildings of a lumber camp. The doors banged in the wind.

Spinner walked toward the camp, hoping to find someone who could help Al. Halfway she stopped. Something rustled. A bear? Her mouth went dry with fear, and she quickened her stride. A small grizzly bear lifted its head and snorted.



Spinner backed up slowly. The young bear snarled and ran a few steps away. Spinner ducked into the tall weeds and raced down the mountainside to the edge of the creek. She put fifty meters between herself and the bear, and did not stop until she reached the bridge where the logging road crossed the creek. Here she scooped up a drink of water.

Spinner did not linger. She took a compass reading, drew on her map, and followed the logging road. She ran, walked, then ran again.

Spinner made swift progress down the logging road. The road ended, but there by the stream was a trail. She recognized it. With a cry of joy she rushed out on the trail.

The sun was almost down to the tops of the mountains when Spinner climbed the hill that looked down on the Red Rock Ranch. She rushed down it in leaps, crossed the field, and ran up the road to the house. A coyote crossed her path. "Ha!" she cried to it. "I'm not afraid of you now. Ha!"

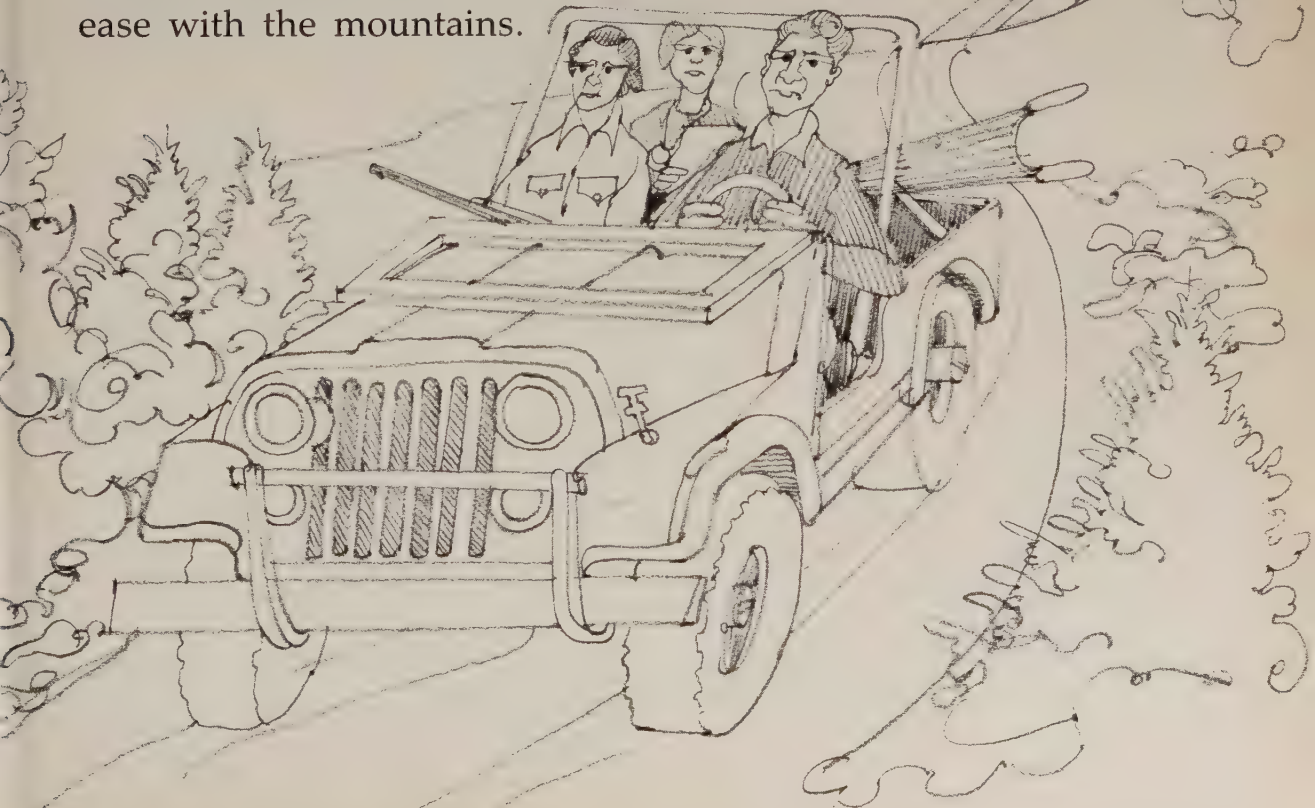
The door of the house was open. Spinner stepped inside and called into an empty kitchen. Footsteps sounded, a door opened, and Gunner appeared. She told him her story.

Gunner acted quickly. He phoned the hospital for an ambulance, called the barn, and told a ranch hand to bring the stretcher from the first-aid room.

Gunner, a cowboy named Jake, and Spinner took the jeep to a nearby campsite and parked it. Gunner picked up the stretcher. Jake took out a rifle. "Bear country," he said to Spinner. She nodded and read her map.

"We take this trail," she said, leading off.

As Spinner thought about the bears, she was surprised at herself. She was no longer afraid. In just a few days she had become at ease with the mountains.





The sun was still shining in the high country when they arrived at the part of the mountain that had been cleared of trees. The light helped Spinner lead the rescue party quickly up the slope.

But by the time they reached the part of the forest where Spinner had left Al, the sun had set. The forest was dark.

"Al!" Spinner called. She grabbed Gunner's hand. "He should be right here. The bear . . . do you think she killed Al and dragged him off?"

"Naw," Gunner said calmly. "He's right here somewhere. He's OK. He knows what to do. Look!" He pointed to the red embers of a fire a short distance away.

Spinner went to Al's side.

"Al," she said softly. "I'm here." He looked up at her.

"Umph," he said and passed out.

## ***Checking Comprehension and Skills***

1. Why did Spinner and Al go backpacking into the mountains? (212)
2. What danger did Spinner and Al run into at the beginning of the story? (212)
3. What did Spinner have to do because Al broke his leg and couldn't move? (214)
4. Spinner went to get help but returned to Al because she was afraid. Then she went for help again. Why? (216)
- 5. Was Spinner able to think of a plan to help her get through the woods? What details make you think so? (216)
6. What happened after Spinner reached Red Rock Ranch? (218–219)
- 7. What kind of person do you think Spinner was? Why do you think as you do?

Tell which definition gives the best meaning for each underlined word.

- 8. Spinner walked to the tree, tied a band on it, and went on.  
group of musicians      piece of cloth
- 9. Spinner ducked into the tall weeds and raced to the creek.  
lowered her head      waded like a duck

- Drawing conclusions
- Context: Appropriate word meaning

## Questions: Your Tools for Reading

If you were going to climb a mountain, you would need to take tools with you. You might use ice axes, crampons, and a rope. Did you ever stop to think that reading can also be easier when you use tools? The tools of good readers are the questions they ask themselves.


Suppose you were going to read an article about the highest mountain in the world, Mount Everest. Before beginning to read, you might ask yourself:

What do I want to know about Mount Everest?

You could make a list of your questions about Mount Everest. This would help you keep them in mind as you read. After reading, you might ask yourself:

Which of my questions were answered?  
Now that I have read the article, do I have other questions about Mount Everest?

Remember, good readers use tools: questions!

- 
1. Where is Mount Everest?
  2. How high is Mount Everest?



Section Six

# BEAUTIFUL T·H·I·N·G·S



How can you “talk” without using words? 224–235

Who can help open our eyes? 236–252

What can be felt, but not seen or touched? 253–264



Photograph by Max Waldman

# MOVEMENT

# MOVEMENT

Have you ever seen a child take his or her first step? Then you have seen a face with a look of pure joy. It is a look that says, "I can move! I am free!"

Like that first step, movement can be thrilling. Movement can also be one of the most beautiful things on Earth when it is used to show feelings or tell stories. That is just what dancers and mimes do. They take basic human movements—walking, leaping, spinning, reaching—and they *talk* with them. They use their whole bodies to tell a story or to express themselves.

In their world, movement says all there is to say.



## *Moments to Forget*

Kay and Pam sat across from one another in the cafeteria. "Question two," Kay said as she read from the quiz in a girls' magazine opened on the table. "What was your most embarrassing moment?"

Pam laughed. "That's easy. It happened in third grade during a talent show at school."

"You were taking dance classes then, weren't you? Did you dance?" asked Kay.

"Well, not quite," giggled Pam. "But I *tried* to dance. It was a swan dance that I practiced for *weeks*. When the curtain opened, I was kneeling in the middle of the stage with my head bent down and my arms folded above my head. When the music started I was supposed to rise up gracefully and begin dancing."

"What's so embarrassing about that?" asked Kay.

"Someone put on the wrong record. I was too scared to move or say anything. For the entire song, I stayed kneeling down with my head bent over, hoping *my* music would begin. By the time the curtain closed, everyone was roaring with laughter. A great start—for a comedian!"

# Judith Jamison: Dancer

Judith Jamison was born in Philadelphia in 1943. She was always tall for her age. By the time she was six, Judith was all arms and legs. Her parents decided to enroll her in the Judimar School of Dance. At that time no one guessed that she would become a famous dancer.

Judith's big break came in 1965 when she was asked to join the Alvin Ailey Dance Company in New York City. Judith was five feet ten inches by then. Yet it was not her height that made her a success. It was her ability to express many human feelings with her body.



## Sharpen Your Skills

An article that gives facts, explanations, or descriptions of real people, places, things, and events is **nonfiction**. **Fiction** comes mostly from the writer's imagination.

1. Of the two selections you just read, which one is nonfiction? How do you know?
2. Which one is fiction? How can you tell?

As you read the next two selections, decide which is fiction and which is nonfiction.

# The Pantomime

by Catherine Whittington

"Look! What's Miss Reeves putting up?"

Carol and Tricia hurried down the school hall to see.

"Oh! It's a poster for the Talent Show!" cried Carol excitedly.

Bold black letters announced the date of the yearly event. Pictures from last year's show framed the announcement.

They laughed as they remembered Kevin's tumbling act. He had tumbled right off the stage!

"I'll bet Franny plays the piano again. She does that every year," said Carol.

"What can we do? Let's think of something different," added Tricia.

"I have an idea." Both girls turned at the sound of Kevin's voice. "Let's all do a pantomime."

"A panto what?" asked Tricia.





"A pantomime, p-a-n-t-o-m-i-m-e. An act without words," said Kevin.

"How can anyone understand us if we don't talk?" asked Carol.

"That's the beauty of a pantomime. We choose a subject and let our bodies do the talking. The way we move our bodies shows what we are doing," said Kevin.

"Oh, I saw something like that on TV," said Carol. "I could tell that one of the actors was sad by the way he sat at a table with his head in his hands. Is that what you mean?"

"Yes, that's it. Any ideas?" asked Kevin.

"We could do a circus act," said Tricia.



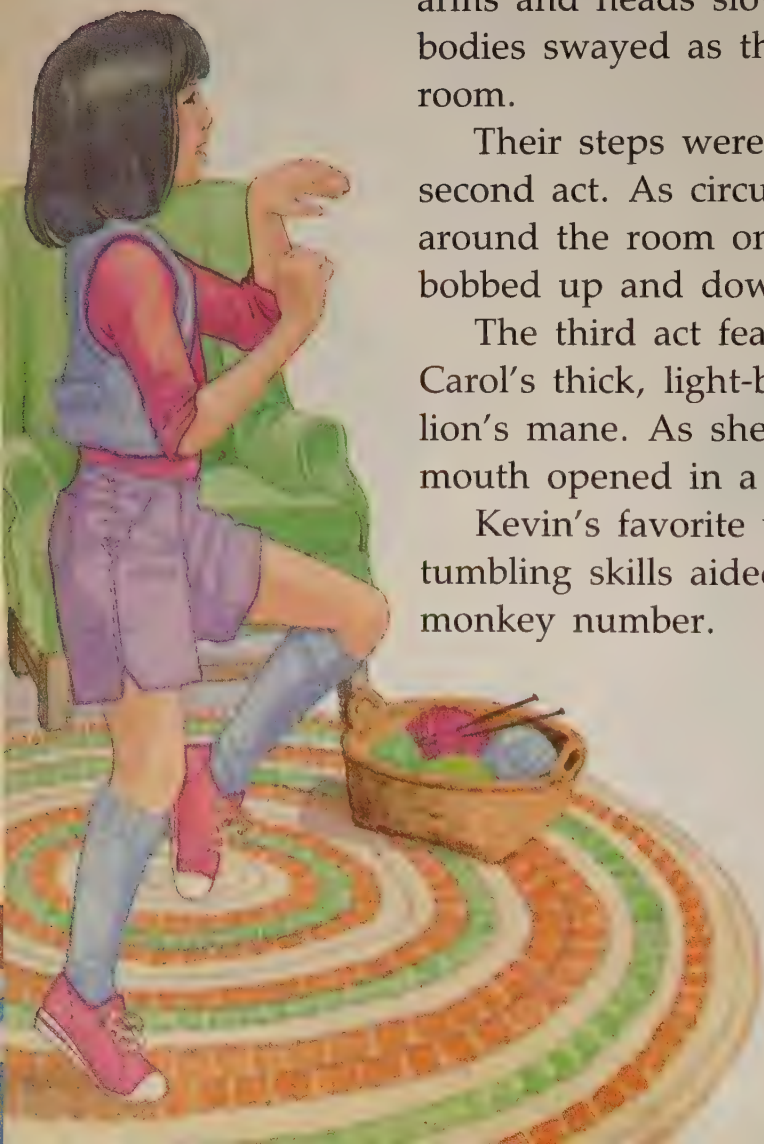
That Saturday Tricia, Carol, and Kevin met at Carol's house to rehearse in her family's big recreation room. They divided their circus performance into four acts.

For the first act, they put their arms straight out in front of them and clasped their hands together forming elephant trunks. They bent their heads low. Then they swung their arms and heads slowly back and forth. Their bodies swayed as they lumbered across the room.

Their steps were much more lively in the second act. As circus horses they trotted around the room on tiptoe. Their heads bobbed up and down in front of them.

The third act featured a lion and two cubs. Carol's thick, light-brown hair made an ideal lion's mane. As she tossed her head, her mouth opened in a wide, silent roar.

Kevin's favorite was the last act. His tumbling skills aided them in their playful monkey number.



Finally the big night arrived. After the curtain had closed for the last time, Miss Reeves stepped forward.

"The judges have chosen the winners," she said.

All the performers stood nervously behind the curtain.

"First prize goes to three very talented students—Kevin Perez, Carol Marks, and Tricia Chang."

With smiles on their faces, Kevin, Carol, and Tricia stepped out from behind the curtain to receive their prize. Miss Reeves continued. "You taught us that a silent act—a pantomime—can be a very beautiful thing. Your dancing bears were wonderful."

"Thank you, Miss Reeves," they said together.

As they left the stage Tricia turned to Kevin and Carol. "Our dancing bears?" she asked.

"Dancing bears, trotting horses . . ." Carol giggled. "Oh well, what's the difference? They both have four legs!"







The title is a graphic design featuring a large yellow star with a black outline. A purple banner with the word 'FROM' in white, outlined letters is positioned at the top of the star. The words 'SPORTS STAR' are written in large, green, 3D block letters across the upper part of the star. Below this, the word 'TO' is written in smaller green block letters. The words 'Ballet Dancer' are written in a large, purple, cursive script across the lower part of the star. The entire graphic is framed by two horizontal lines with dots at the ends.

# FROM SPORTS STAR TO Ballet Dancer

by H. N. Levitt

*Edward Villella is one of the best ballet dancers in the world. To keep in shape, he trains eight hours a day, every day. He tells you about his fast-moving and demanding life in this interview by H. N. Levitt.*

LEVITT: What is the most exciting thing that ever happened to you as a dancer?

VILLELLA: Dancing at the White House for our presidents was very exciting. I danced for four presidents—Kennedy, Johnson, Nixon, and Ford. Also the first time the New York City Ballet went to Russia was very exciting for me. The audience clapped so much that they stopped the ballet after my part and I had to

take twenty-two bows. I had goose bumps, and the sweat was pouring down my body.

LEVITT: What sports did you play before you became a dancer?

VILLELLA: I was welterweight boxing champion at college and I won my letters in baseball in high school and college.

LEVITT: Did you or your parents first think of dancing?

VILLELLA: My mother thought of dancing for my sister. She took my sister to a dancing school while I stayed home and rough-housed around. One day I got hit with a baseball and was knocked unconscious. From then on, my mother took me along to my sister's classes. I was furious. I'd have to sit there and wait while my friends were playing ball. My mother said, "Why don't you take some classes?" I told her it would ruin my social life. The guys would never stand for it.

So she made me take classes against my will. I was angry and upset about it for a long time. But little by little I got into it. Movement was always a part of my life anyhow. I never walked; I ran. I never reached; I jumped. And I always played sports.



LEVITT: Do you have any tips for young people?

VILLELLA: To take ballet lessons puts your body way ahead, no matter what sport you may want to do—swimming, baseball, any sport. It's a great discipline. You become aware of your body. At the same time you learn about music and art.

If you do go on to become a ballet dancer, it's a terrific life, because it's exciting to move in the world of dance. You get to travel, to go all over the world. And there's also the romance of it, all the wonderful things about being on stage. As a way of life, it's the best.



## Checking Comprehension and Skills

1. What did Carol, Tricia, and Kevin decide to do for the Talent Show? (228–230)
2. What movements did they use to pantomime elephants? (230)
- 3. Is “The Pantomime” fiction or nonfiction? How do you know?
4. Edward Villella is a sports star as well as a dancer. What sports did he play? (233)
5. How did Villella’s feelings about learning ballet change? (233–234)
6. According to Villella, how can ballet make you a better sports star? (234)
- 7. Is “From Sports Star to Ballet Dancer” fiction or nonfiction? How do you know?
- 8. Reread the last paragraph on page 233. What does the word *will* mean?  
wish      shall
- 9. Reread Levitt’s first question and Villella’s answer on page 234. What does the word *tips* mean?  
money      useful hints

- Fiction and nonfiction
- Context: Appropriate word meaning

# To Open Our Eyes







Does everything around you look dull? Do you see not a trace of beauty anywhere? Does your whole world seem ordinary and gray?

Try looking at a painting! Or study a sculpture, or a photograph—any great work of art. It can give you a fresh, new way of looking at the world.

Artists help us see beauty in very simple things, like the bolts on a bike or the flight of a seagull. They help us wonder at the greatness of our world. Artists help open our eyes.



# Using What You Know

Artists use different ways to draw pictures. You can use different ways to figure out the meanings of new words.

## Sharpen Your Skills

Here are several ways you've learned to figure out the meanings of new words.

- **Definitions and explanations** Look for information that defines or explains a word. What do the underlined words below mean?  
A pantomime is an act or play without words. The boys acted like condors, large birds, by flapping their arms.
- **Examples** Phrases like *for example* and *such as* often signal examples that give you more information. What does *movements* mean?  
The dancer's movements, such as leaping and spinning, were beautiful to watch.



- **Words with more than one meaning**

When you aren't sure what meaning a word has, use the context to figure out a meaning that makes sense. If necessary, use a dictionary. What does *date* mean?

Is this date OK? Is this Tuesday or next Tuesday best for our meeting?

- **Idioms** If the usual meanings of a group of words don't make sense, the words may be an idiom. Use the context around the idiom to figure out what it means. What does the idiom *won't stand for* mean?

I like loud music, but my parents dislike it. They won't stand for the noise.

Use one or more of these ways to figure out what the underlined words below mean.

A photographer is a person who takes photographs. Photographs, pictures made with a camera, can show many things. Some photographers take pictures of landscapes, such as views of the countryside in the fall.

You can be a photographer too. What catches your eye? Do race cars or tiny kittens attract your attention? You can take pictures of whatever you wish.

Remember to use what you know about words as you read about artists.

# Grandma Moses.

Grandma Moses was a truly remarkable woman. She was perhaps the greatest folk artist that America has ever had. And yet she did not even begin to paint pictures until she was in her seventies! Starting late seemed to matter little. By the time she died, at one hundred one years old, she left behind a large and wonderful body of work.

Outdoor country scenes are almost all that Grandma Moses painted. Her landscapes are painted with bright colors. The people and animals which inhabit each one are lively—almost always caught in action.

Grandma Moses never took an art class. She taught herself everything she knew. There were probably other landscape artists painting at the same time who had better technique. But no artist, then or now, has made the country come more alive in a painting than Grandma Moses has. A likely reason for her great success is that she knew the country so well and loved it.





Grandma Moses lived in the country all her life. She saw the wobbly legs of a calf when it first tried to stand. She knew the thrill a young girl feels skating down a frozen field stream. She knew well the hard work of a farm harvest. These were some of the moments she painted so that others would know them too.

### ***Sharpen Your Skills***

**Facts** are known to be true or to have really happened. A fact can be checked or proved. An **opinion** is a person's judgment or way of thinking about something. An opinion can be supported or explained, but it can't be proved. Sometimes, but not always, words or phrases like "in my opinion," "perhaps," or "possibly" signal statements of opinion.

1. Can you prove that Grandma Moses is America's greatest folk artist? Is the sentence that states that a fact or an opinion?
2. *Grandma Moses lived one hundred one years.* Why is this sentence a fact?

As you read the following articles about painting and sand art, decide which statements are facts and which ones are opinions.



# Pablita Velarde—Artist of the Pueblos

By Marion E. Gridley

Pablita Velarde<sup>1</sup> is considered the main painter of Pueblo<sup>2</sup> life and one of America's great artists.

She was born in 1918 in the Pueblo of Santa Clara in the state of New Mexico. Pablita was only three when her mother died, leaving two older sisters and a new baby. When Pablita was six, she and her sisters were sent to a school in Santa Fe, New Mexico. For the next several years, Pablita went to school in the city, returning to the Pueblo to spend summer vacations.

Life was very full for Pablita during summer months at the Pueblo. She worked on the farm, tending the cattle and riding her horse down the mountain to get water. She spent many hours with her grandmother. From her, Pablita learned many Pueblo skills, such as how to shape lovely pots. She also

---

1. Pablita Velarde (pä blē'tä vā lār'dā)

2. Pueblo (pweb'lō)

played in cliff dwellings at the Pueblo where her people had lived thousands of years before.

When the work was done, her father told the children stories. He told them legends of the Pueblo people being led to the earth from an underground world by Spider Woman. As Pablita listened, she would see the stories before her eyes as if they were painted.

Her life at home gave Pablita the ideas and pictures that she would always use in her art. At school, she learned the skills she needed to “speak” those ideas and pictures with paint.

Pablita’s talent showed itself early. Just after she finished eighth grade, one of her school paintings was chosen for a show at the World’s Fair. New avenues opened to Pablita then, and she got assignments to do important art works.

After high school, Pablita lived on her own in Santa Fe and later, when she was married, in Albuquerque.<sup>1</sup> As time went on, she became known across the country as an excellent artist. She won many prizes at art shows.

At one point, Pablita became exhausted after working on a huge mural, a painting on a wall. She felt a need to restore herself by

---

1. Albuquerque (al’bə kèr’kē)





returning to her childhood home. She also wanted to renew ties with her father. He had not always approved of Pablita's life because, by Pueblo tradition, only men were painters.

He was now an old man, and Pablita sat with him by the hour under a giant tree. There were long silences between them. Each had to find the way back over lost years.

Pablita asked her father to tell again some of the stories he had told her when she was young. She wanted to write them down and illustrate them with her own drawings. Her father said yes. By sharing the stories together, the two once more became close.

Pablita made a painting of her father which most people think is her finest work. Named *Old Father*, the painting shows an old man telling stories to a group of children around him. Their bodies are bent close to catch every word. The stars and planets are part of a background of huge distance. Against this background Pueblo ancestors, coming from another world, are marching. There are Pueblo signs, and a Pueblo village is woven into the background. Because of Pablita's fine handling of colors, the painting is filled with a light that seems to come from another world. It is awesome to see.

*Old Father* won the Grand Prize in the 1955 Intertribal Ceremonials art show at Gallup, New Mexico. Pablita also found a publisher for her father's stories. Each story has beautiful drawings done by Pablita. The book was printed in 1960, and it was hailed as one of the best books of the year. Many young Native American artists were deeply inspired by the book. Some of them began to draw and paint the age-old stories of their own tribes.

The Santa Clara Pueblos point to Pablita with pride. She is the most famous and the greatest artist among Native American women.

# Great Art~That Leaves with the Tide

by Patricia Demuth

Only young children build castles in the sand. Right? Wrong! Today, people of all ages are building castles (and lots more) on beaches up and down America. Why? Because shaping things in wet, squishy sand is fun for everybody.

Sand art has become so popular in the last few years that now several states with ocean coasts hold contests each summer. Anyone can sign up for them. To win, all you need is a good idea and a *big* pile of sand.

The rules of all the contests are about the same. You can bring simple tools for shaping and packing sand. Everything from shovels to ice-cream spoons has been used in the past. What you build can be made only of sand and water. On top, you can add only what you find on the beach—things like shells, rocks, or seaweed. Use anything that catches your eye.



In some contests, you can make the sand into any kind of structure, such as a castle or a tennis shoe. But some contests say what you have to make. In Hawaii for example, the people in a sand-art contest were allowed to make only animals out of the sand. Winners of that contest became “parents” of animals at a nearby zoo.



No matter what the sand artists build at each contest, the art all looks the same in the end. That's because of the tide. The tide is ocean water that rises and falls. It comes in and washes all the art away. Do sand artists become sad seeing their wonderful works washed away by water? Not at all. They just start all over again. Every sand artist thinks that building the sand art is the best part.

You, too, can make great sand art. Here are some things to keep in mind.

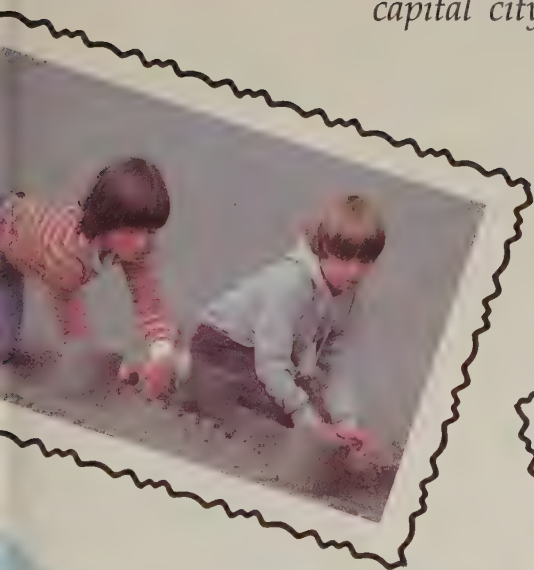
1. There are ten hours between tides. To use all of these hours, begin building in the morning, just as the tide starts to go out.



2. Keep your sand wet. If it starts to dry, spray it with water.
3. Begin by building up a large pile of wet sand and packing it hard. Then build from the top down.

Be a sand artist. You'll be up to your ears in fun. There is no better way to spend a day than shaping sand at the beach!

*Sand-art contests are held in many states, including Hawaii, California, Oregon, and New York. To find out when and where the contests are, write to the State Department of Recreation in the capital city of the state you want.*



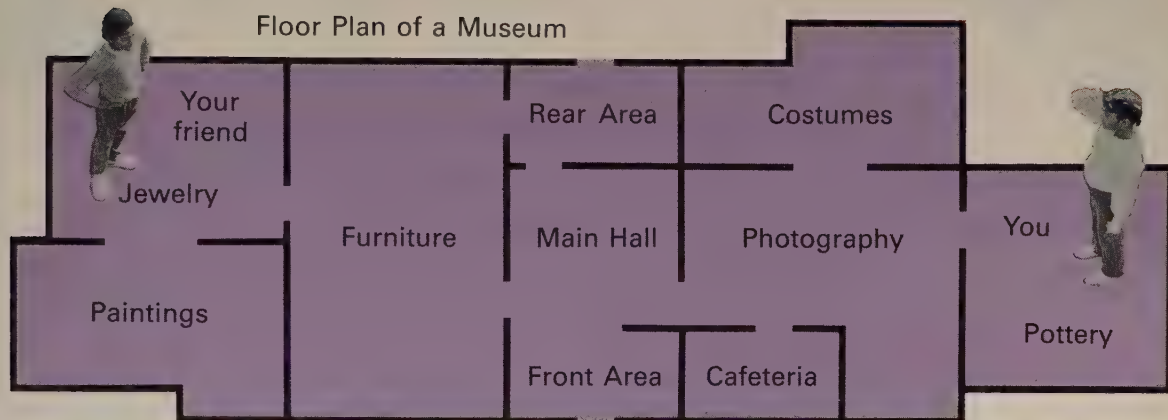


## Checking Comprehension and Skills

1. What did Pablita learn from her grandmother?  
her father? (242–243)
2. Do you think it was a good idea for Pablita to  
return home when she became tired? Why or  
why not?
- 3. Which statement is a fact? an opinion?
  - a. Pablita was born in 1918 in the Pueblo of  
Santa Clara.
  - b. She is the greatest artist among Native  
American women.
4. What does the title “Great Art—That  
Leaves with the Tide” mean? (248)
- 5. Which statement is a fact? an opinion?
  - a. Every sand artist thinks that building sand  
art is the best part.
  - b. There are ten hours between tides.
6. Describe the sand art you’d like to make.
- 7. What does the underlined idiom mean in the  
following sentence?  
Sand artists build castles on beaches up and  
down America.
- 8. What does *structure* mean in the sentence  
below? What words helped you answer?  
You can make the sand into any kind of  
structure, such as a castle or a shoe.

- Fact and opinion
- Word Study Strategies

# Reading a Floor Plan



Above is a floor plan of a museum that has a showing of many different works by famous people. Each room is outlined with a dark line. Each break in a line stands for an open door.

Imagine that you are at this museum and you want to meet a friend for lunch. You are looking at pottery and your friend is looking at jewelry. How do you get from your spot to your friend's spot?

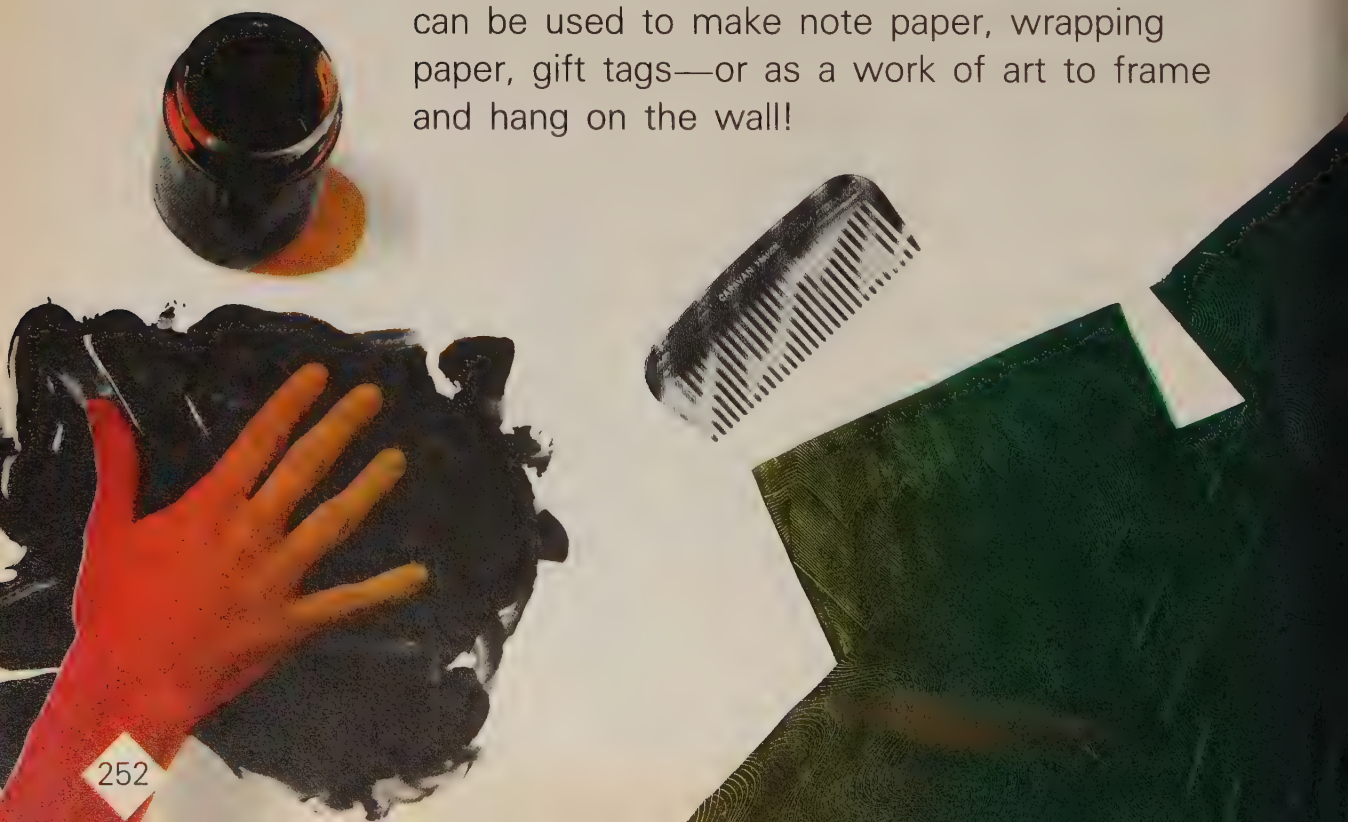
CLUES: 1. Look at the museum floor plan and find both rooms on it—yours and your friend's. 2. With your finger, trace a path through open doors which you can follow to reach your friend. 3. If you are not certain which way to turn, picture yourself standing at a door, facing the direction you want to go. Decide then if you should turn left or right.

JUST FOR YOU  
.....

# Make Your Own Art

Want to make the terrific-looking stationery you see on this page? Here's how. Put finger paint all over one side of a sheet of white paper. The best paper to use is paper that has a shiny surface which doesn't soak in the paint too quickly. While the paint is still wet, make your designs. You can use your fingers, a comb, a paper towel, or an old toothbrush.

When the paint dries, cut the paper to the size you want. Besides stationery, your designs can be used to make note paper, wrapping paper, gift tags—or as a work of art to frame and hang on the wall!





# The Human Mandolin

Reading  
Bonus

by Moses L. Howard

*One of the most beautiful things in life cannot be seen or touched. Yet it can be felt. It is music. The African tale told here captures the feeling of music, its sweet, strong power.*

Once there lived a great musician. He could play flutes and drums and mandolins. He could make these instruments as well, using plants and trees.

Through the day he worked under a big tree near a village. For hours, he carved wood or sanded it, and he stretched strings and animal hide. When he was not making instruments, he played music. People always came to listen. Like magic was his music, lifting people's worries and making them disappear in the air along with the sweet notes.



Sometimes he would go from village to village. While people worked, he joined in the planting or weeding with them. When they needed rest, he would play to them and sing with them and tell them stories of their greatness. The workers were made strong and happy by his songs.

As time passed, the villages grew into towns. People traveled in fast cars instead of on foot. They hurried to work in factories, then hurried home to eat and sleep. They passed by the old man as he worked on his instruments under the old tree.

The musician longed to play songs, but there was no one to listen. Sometimes he played for himself. But that only made him sad.

One day he got an idea! He would make the best mandolin he had ever made. And into it he would put the sweetest sounds in the world. Then the music could be kept in the mandolin until people were ready to listen to it again.

He chopped down the tallest and straightest tree he could find. It had been singing and dancing in the wind all its life. Then he began to carve it. The sun was his torch and the moon his candle as he carved. He shaped the mandolin like his body. He gave it a long neck and a small head. He gave it a mouth turned in a smile—both sad and happy. The strings ran from neck to stomach. The old man chanted as his old hands moved with care over the wood.

When the mandolin was finished, he set out early to gather music. Deep in the woods, among the tall trees, he found beautiful birds and he asked them to sing. He did not take the first notes, but waited until the birds' songs set the forest leaves to shaking with joy. He took the merriest notes and rubbed them into the great mandolin. He thanked the birds and went on to the lake.




"Will you give me your happy splashing sounds that sometimes tinkle like bells?" he asked. The lake asked him to wait for the wind, saying that the lake and the wind usually sang together.

The old man was glad to do so. He had a fine time with the two friends, then went away with their voices in the mandolin. On his way home, the wind hummed merrily over the grass for him. This sound, too, he put into the mandolin. Then he caught the brightness of the sun and drifting blue clouds, and rubbed these in also.

Now happy sounds filled his mandolin. But there was yet one sound missing—the sound of people laughing. He went from village to village, through forests, and over lands of grass. He heard the happy chatter of monkeys and, in the evening, trumpeting of elephants. But he heard no laughter.

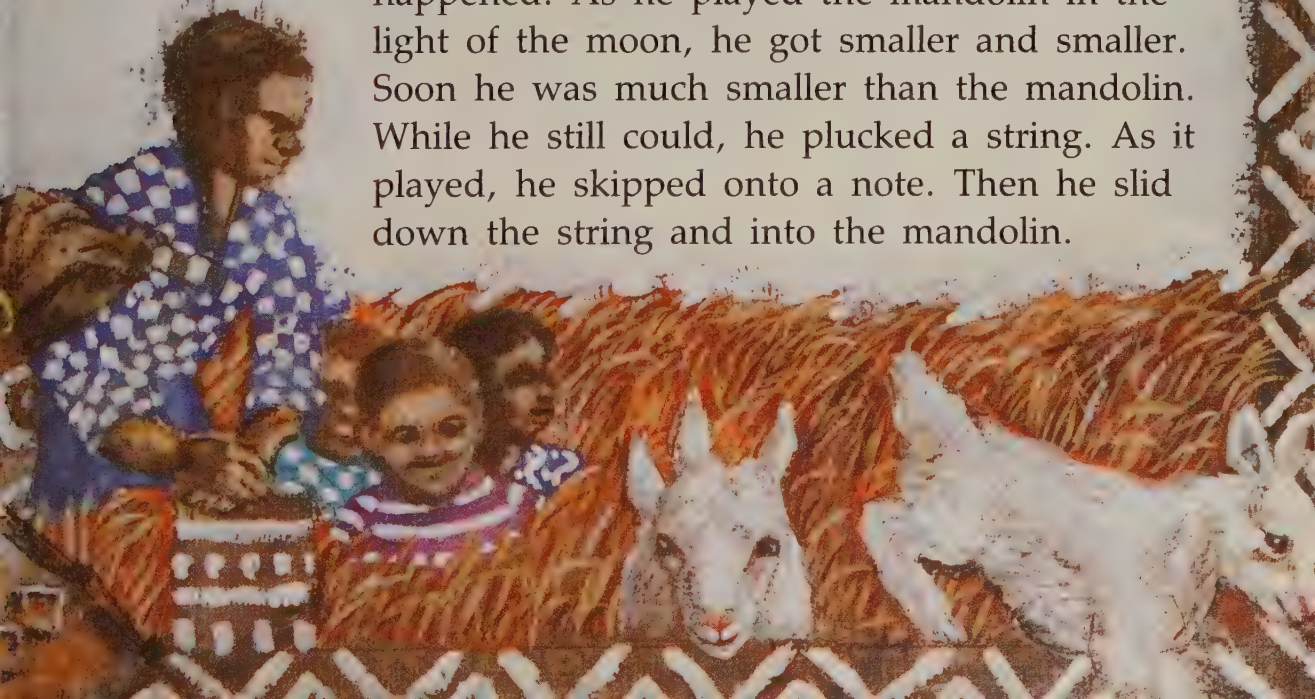




Then the old man came near a tall stand of elephant grass and heard music that made his heart jump. Before him were people watching over a herd of goats. They were playing flutes, laughing and calling to each other to play more. The old musician quite forgot his age as he joined in with his mandolin. When he left, his mandolin was full with sounds of people laughing.

Finally the mandolin was finished. How beautiful it was! So smooth and brown. When he tapped it with his thumb it gave a rich, deep sound. And when he plucked the strings, the sweet notes set his heart fluttering.

That night, sitting under his tree, he began to play, and a strange and wonderful thing happened. As he played the mandolin in the light of the moon, he got smaller and smaller. Soon he was much smaller than the mandolin. While he still could, he plucked a string. As it played, he skipped onto a note. Then he slid down the string and into the mandolin.

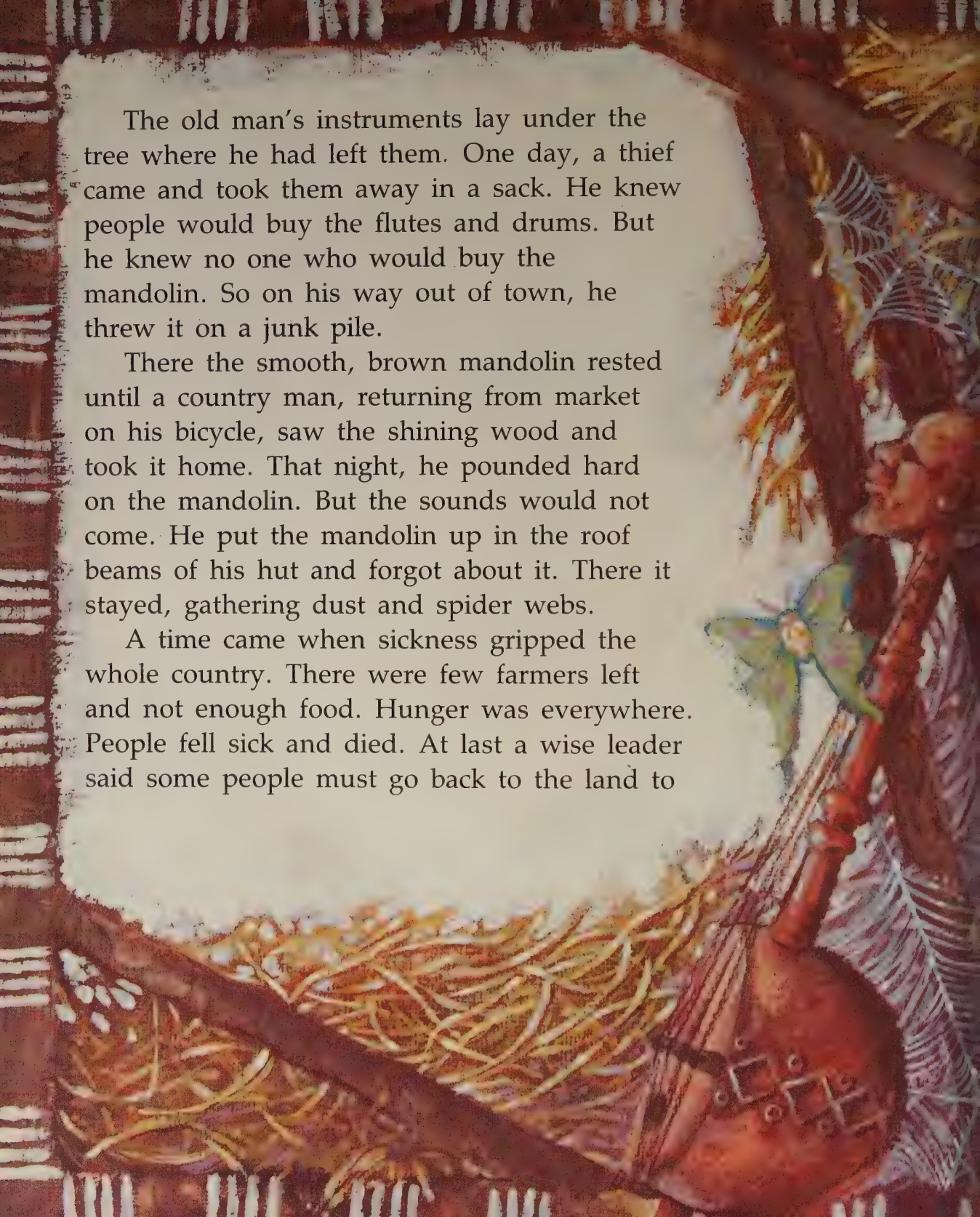




The old man's instruments lay under the tree where he had left them. One day, a thief came and took them away in a sack. He knew people would buy the flutes and drums. But he knew no one who would buy the mandolin. So on his way out of town, he threw it on a junk pile.

There the smooth, brown mandolin rested until a country man, returning from market on his bicycle, saw the shining wood and took it home. That night, he pounded hard on the mandolin. But the sounds would not come. He put the mandolin up in the roof beams of his hut and forgot about it. There it stayed, gathering dust and spider webs.

A time came when sickness gripped the whole country. There were few farmers left and not enough food. Hunger was everywhere. People fell sick and died. At last a wise leader said some people must go back to the land to





grow food. No one wanted to go, but hunger drove them out of the town back to the country.

They found the villages overgrown with bush and weeds. But soon the sounds of axes, hoes, knives, and voices sang over the land. The people worked from morning to night. They dug, planted, and weeded. Hunger was pushing them on.

The plants grew. When the harvest came, there were many crops and they were good. The people had food to eat.

In the evenings after work, the adults rested together in front of their huts while the children made up games. One evening, while chasing each other, the children ran into a hut and spied something overhead among the cobwebs. One boy climbed on an old bench and brought down a thing made of wood.

A little girl brushed the cobwebs and dust from the smooth, brown wood. Seeing that it was a mandolin, she strummed it. A beautiful thing happened. The mandolin began to play by itself, making the most charming sounds. It made sounds of sighing lake water, and sounds like birds' songs. It made sounds of happy chattering monkeys, and sounds like

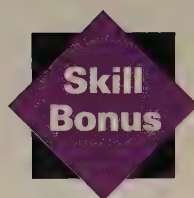
the sun on bright rocks and the wind in the grass. The mothers and fathers heard the voices of laughing children and came to listen.

The people tell different stories about what happened in that hut. Some say a tiny old man danced out on the strings and played happy tunes. Others said that was not so, but everyone heard the laughing music.

From that time on, if any person who is laughing and merry plucks the strings of the mandolin, all the beautiful sounds gathered by the old man come floating out. Sometimes, in a certain light, when the faces of the people are happy, the shadow of the old musician can be seen dancing on the wall.







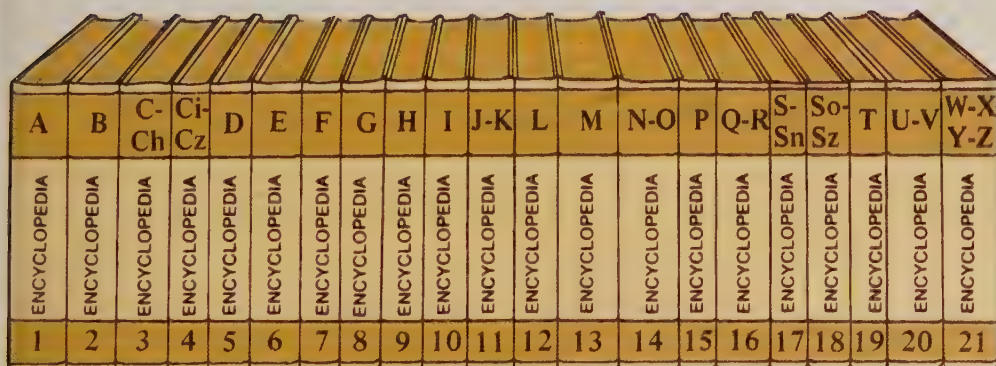
# Using the Encyclopedia

What does a mandolin look like? How do you play it? A good place to find the answers to these questions is an encyclopedia.

## Sharpen Your Skills

An **encyclopedia** is a set of books that has thousands of articles about people, places, and things. Books in an encyclopedia are arranged in alphabetical order. Each book is called a **volume**. To find out about the mandolin, you would look in the *M* volume.

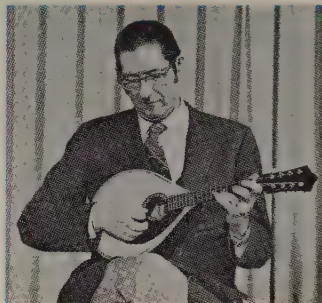
Articles in each volume are also arranged in alphabetical order. The subject you are looking up is called an **entry word**. It is shown in dark type.





Do you see the entry word *mandolin*? An article about a subject is called an **entry**.

Encyclopedia pages have guide words, just as dictionary pages do. A **guide word** appears in dark print at the top of each page. The entries on any two pages fall alphabetically between the guide words on the two pages. What is the guide word on the sample page?



The Mandolin has been popular for hundreds of years, particularly among southern Europeans and Latin Americans.

were called **mandated territories**. The League of Nations supervised the administration of these territories. The League expected the governing countries to improve conditions for the people in the mandated territories, and to prepare the people for self-government.

The mandated territories included areas once controlled by Germany and Turkey. Great Britain received mandates for Iraq, Palestine (including Jordan), and Tanganyika. France received Syria (including Lebanon). Both countries were given parts of the Cameroons and Togoland. Belgium received Ruanda-Urundi. Japan was given former German islands in the North Pacific Ocean. Australia received German islands in the South Pacific, including the northeastern section of New Guinea and Nauru. New Zealand received Western Samoa, and the Union of South Africa (now South Africa) obtained German Southwest Africa (now called Namibia or South West Africa).

The League appointed a commission to supervise the mandate system. The commission had no power to govern, but usually persuaded the nations with mandates to improve education, public health, and the economy in the mandated regions. However, the governing nations often failed to train the people to govern themselves.

The mandate system came to an end in 1947. By that time, several of the mandated territories, including Iraq, Syria, Lebanon, and Jordan, had become independent countries. The remaining mandated territories, with the exception of Namibia, were placed under the stronger United Nations trusteeship system. The same countries continued to administer the territories, but they were under the control of the UN Trusteeship Council and General Assembly (see **TRUST TERRITORY**). South Africa resisted UN attempts to bring Namibia into the trusteeship system.

**(MANDIBLE, MAN dah b'ul, or lower jawbone, is shaped like a horseshoe. A person can feel the entire bone from chin to temple. The corpus (body) of the mandible runs backwards from the chin to the angle, at which point it turns upward to form the ramus. The ramus makes a joint at the temple. This joint allows the**

## MANDRAKE

mouth to open and close. In adults, the corpus has eight teeth on each side. The chewing muscles attach to the ramus, and most of the tongue muscles attach to the corpus. See also **HEAD** (picture).

**MANDINGO.** See **MALINKE**.

**MANDOLIN.** *MAN dah lin*, is a musical instrument with strings. It was probably copied from the lute, a much older instrument (see **LUTE**). The mandolin is shaped like a pear cut in half lengthwise. It has four or five double strings of wire, a fretted neck, and a flat headpiece with tuning screws. The player produces a tone with a *plectrum* (pick) held between the right thumb and forefinger. Tones can be sustained by *trilling* (shaking the strings rapidly). The four-stringed mandolin in common use is tuned in fifths, like the violin. It is often used to accompany singing.

CHARLES B. RICHTEY

**MANDRAKE** is the name of two similar plants that belong to the nightshade family. Mandrakes grow wild in southern Europe and Asia. The stem of the mandrake cannot be seen, and the leaves seem to grow directly from the roots. Most mandrake plants have one large, thick root that tapers to a point. The white, bluish, or purple flowers of the mandrake grow on stalks among the leaves.

People have long had superstitious beliefs about the mandrake. According to one superstition, the mandrake shrieks when it is pulled out of the soil. Many persons also believe that it brings good luck to a household when it is properly consulted. The root of the mandrake was once used as a narcotic and anesthetic, and in so-called *love potions*. The mandrake was also described as growing best under a gallows.

People in the United States and Canada often use the name *mandrake* for the *May apple*, which belongs to the barberry family (see **MAY APPLE**).

**Scientific Classification.** Mandrakes belong to the nightshade family, Solanaceae. They make up the genus *Mandragora*. The species of mandrakes include *M. autumnalis* and *M. officinarum*.

JULIAN A. STEVERMARK



The Mandrake has a large, thick root. Some people believe these roots have magical and medicinal properties.

## entry word

To look up something in an encyclopedia, first think of a word to look up, like mandolin. Suppose you wanted to know more about the training of ballet dancers. What word would you look up? If you want to learn more about a person, use the person's last name. What word would you use to look up Edward Villella?

Remember to use these tips when you use an encyclopedia.

- Decide on a word to look up.
- Use alphabetical order to find the volume of the encyclopedia that has your word.
- Use the guide words to find the page that has your word.

Use the tips above to answer these questions.

1. Suppose you wanted to read about the island of Malta. Would you find the entry for Malta on a page before or after the sample on page 262?
2. What word would you look up to find out more about Grandma Moses?

The encyclopedia has the answer to almost any question you can think of. Remember to use it!

## Books to Read

**The Robot and Rebecca and the Missing Owsen** by Jane Yolen. Knopf

What are owens? Why would anyone want to kidnap them? Rebecca knows, and she and her robot, Watson, track down the kidnapper.

**Chii-la-pe and the White Buffalo**

by John D. Nicholson. Montana Council for Indian Education

Chii-la-pe finds a rare treasure in the mountains—a white buffalo. Read this beautiful and true-to-life story about how he protects this special animal.

**Journey to the Bright Kingdom**

by Elizabeth Winthrop. Holiday House

Kiyo takes her blind mother on a journey to a special kingdom where her mother, if only for a few moments, sees the most beautiful thing in the world—her daughter's face.

**there's a rainbow in my closet**

by Patti Stren. Harper

Who can make a rainbow in a closet? Emma's grandma can. She sees beauty in ordinary things, and the beauty in Emma too.



## Section Seven



**You made that up! 266–277**  
**What difference does it make? 278–291**  
**Go to your room. 292–304**





# You Made That Up!



People have been making strange and wonderful things ever since they learned to think and tinker—to take apart and put things back together again in new and different ways.

Safety pins and stereos, cars and catsup are things you see and use every day. You may not ever see eyeglasses on a chicken or use a dimple machine, but all of these things exist. Each one is an invention that someone made up.



## Getting a Patent

A patent gives a person the right to make, use, or sell a new invention for seventeen years. No other person may make, use, or sell it during that time.

There are several steps a person has to go through to get a patent. First, he or she sends for a form from the U.S. Patent and Trademark Office, the grantor of patents, in Washington, D.C. Then the person fills out the form and returns it with a drawing and sixty-five dollars.

When the form reaches the Patent Office, it is checked by the people who work in the Patent Office. They search the records to see if anyone else has already done the same thing. Anyone may look at these records in the Search Room. An invention must be new and useful. If it is, a patent is given when a charge of one hundred dollars is paid.

Only about half of the people who ask for patents each year receive them. People can always invent things without getting a patent,

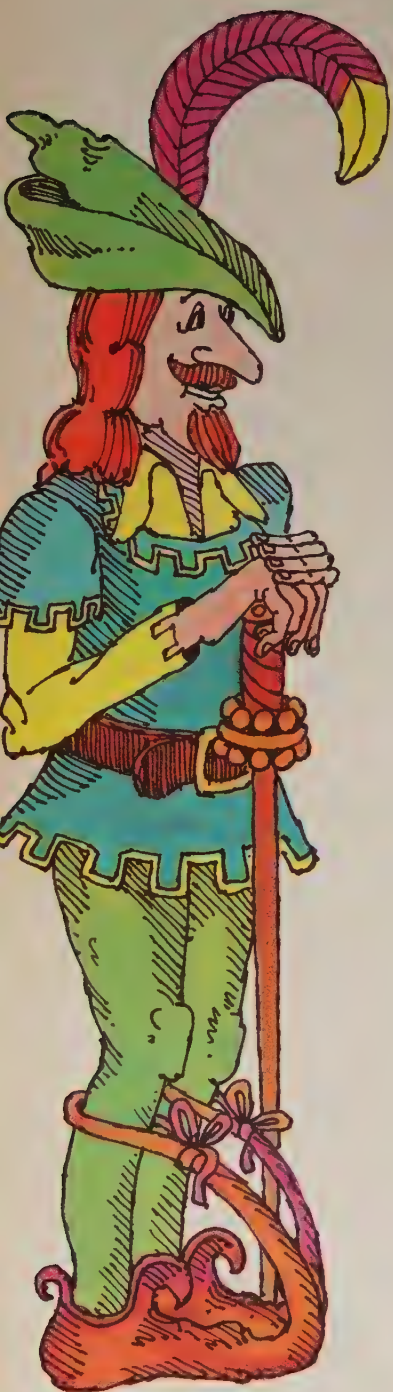
but they are not protected from someone else taking their ideas and using them.

### ***Sharpen Your Skills***

When you read an article, ask yourself what the article is about. Then decide what the most important idea, or **main idea**, is. It is important to notice the details too. Some details, called **supporting details**, tell more about the main idea. Other details may be interesting but do not tell more about the main idea.

1. What is the main idea of this article?
  - a. The U.S. Patent Office is in Washington, D.C.
  - b. There are several steps to go through to get a patent.
2. Which two details support the main idea?
  - a. An inventor sends a form, drawing, and money to the Patent Office.
  - b. The Patent Office must be sure the invention is new and useful.
  - c. A patent lasts for seventeen years.

As you read the articles that follow, look for main ideas and supporting details that tell about some useful—and crazy inventions.



# Everyday Inventions

by Don L. Wulffson

Some everyday inventions have been around for a long time. In fact, they have been around so long that no one knows for sure who invented them. Here are some things you use every day. Did you ever try to imagine where they came from?

## Shoes

People have been on Earth for a long time. Most of that time they have been walking around in their bare feet! No one knows exactly when an ancient inventor had the bright idea of making shoes. The first shoes may have been made of leaves or animal skins wrapped around the feet. Then someone thought of making sandals.

Through the ages there have been some very strange types of shoes. In the 1600s, in England, people wore shoes with long pointed ends. In time the shoes got so long that the ends had to be attached to the wearers' knees!



High heels have long been in fashion. By the end of the 1800s some women wore heels so high that they couldn't walk in them. To keep from falling, these women hired special servants to lean on whenever they needed to get from one place to another!

## The Fork

More than a thousand years passed between the time forks were first invented and the time people began eating with them. Ancient forks were used as weapons or for farming or fishing.

The people of the Middle East were the first to develop the idea of eating with a fork. In the 1200s the idea traveled to Europe. At that time, a woman from Constantinople<sup>1</sup> married a man in Italy. When the woman moved to her husband's homeland, she brought a fork with her. Instead of eating with her fingers like everyone else, she cut her meat into little pieces and ate it with a fork. The idea caught on. By the 1600s most people in Europe were eating with forks.

---

1. Constantinople (kon'stan tə nō'pəl)



## Soap

The Sumerians, a people who lived long ago, are believed to have been the first makers of soap. They would throw ashes and grease into a pot of boiling water. After stirring for a time, they would add salt. Then a curd, which was soap, would form at the top.

Sometimes soap is made by accident in nature. Quite a few plants and trees have soap-like substances in them. In fact, the whole island of Cimolus in the Aegean Sea is made of a soap-like substance. The islanders wash their clothes and take baths with this "soap." When it rains, the island is covered with several feet of soapsuds!



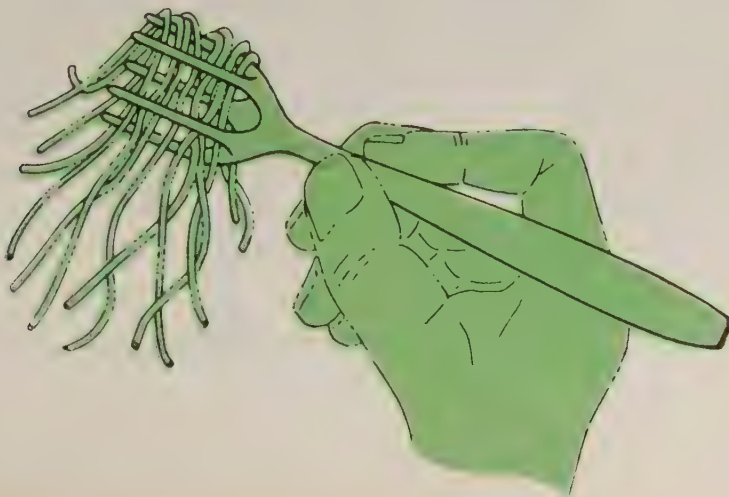


by Jim Murphy

Many kinds of things have been invented over the years. Just about all of them are now thought of as odd and silly. Some could even be called weird and wacky. Here are a few of them.

### Spaghetti Fork

Malcolm Braid was the creator of this spaghetti fork in 1975. It had five prongs set widely apart. The prongs were at different levels. This allowed the fork to hold more spaghetti.





## Device for Waking People from Sleep

Samuel Applegate wanted to make sure that everyone got up on time. So, in 1882, he thought up a way to wake people up from sleep. He put sixty corks on strings. The corks were then hung above the sleeping person by a cord. The cord was connected to a clock. The clock would signal the time to wake up by letting the cord go. Then all sixty corks dropped down on the unsuspecting sleeper.





### **Sunbather's Toe-Rings**

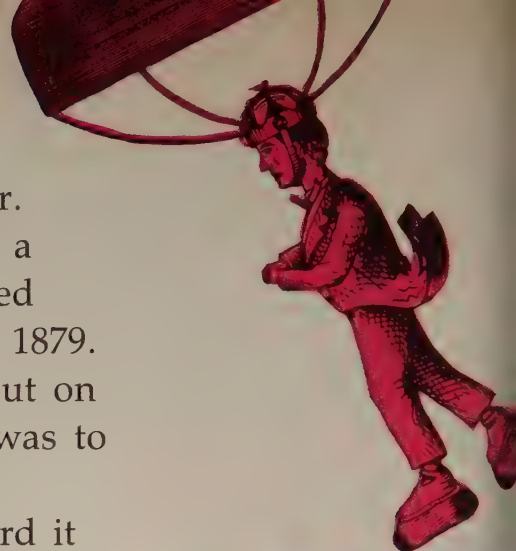
In 1973 Russell Greathouse made these sunbather's toe-rings. They were put on each big toe to keep the feet together. He hoped that the person would then get an even tan on his or her legs. Mr. Greathouse even cut a tiny hole in the center for a flower.

### **Portable Bathtub**

Frances Allen hoped her bathtub would help travelers after long journeys. All a person had to do was connect the hoses to some water and step in. The person could close the bag with a zipper on the inside and begin to scrub away. Once the bath was over, the bag was drained and rolled up for another day.

## Fire Escape

As buildings got taller and taller, a Mr. Benjamin Oppenheimer saw the need for a new kind of fire escape. Thus, he invented these padded shoes and hat-parachute in 1879. While the fire burned, a person was to put on the fire-escape outfit, and the parachute was to carry him or her to safety. However, Mr. Oppenheimer said nothing about how hard it might be to get this outfit on or the danger of being blown by the wind into the fire.





## Checking Comprehension and Skills

1. What type of strange shoes were worn in the 1600s? (270)
2. What were ancient forks used for? (271)
3. How did Sumerians make soap? (272)
4. Why was the article on pages 270–272 titled “Everyday Inventions”?
- 5. What is the main idea of “Weird and Wacky Inventions”?
  - a. Some inventions are silly.
  - b. Frances Allen was an inventor.
- 6. What detail supports the main idea?
  - a. Malcolm Braid was an inventor.
  - b. One invention dropped corks on sleepers.
7. Which weird invention is your favorite? Why?
8. Think of a new name for one of the wacky inventions. Share it with your class.

Tell what the underlined word means in each of the following sentences.

- 9. Malcolm Braid was the creator of the spaghetti fork.
- 10. Allen’s portable bathtub helped travelers take baths.

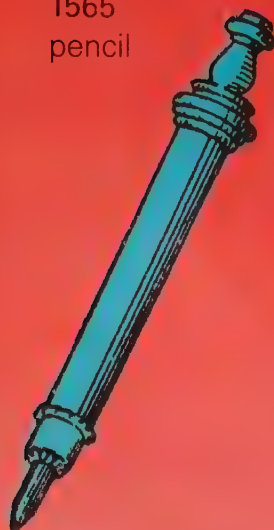
- Main idea and supporting details
- Structure: Suffix (-or, -er as agent)

**1500**

1560  
false limb



1565  
pencil

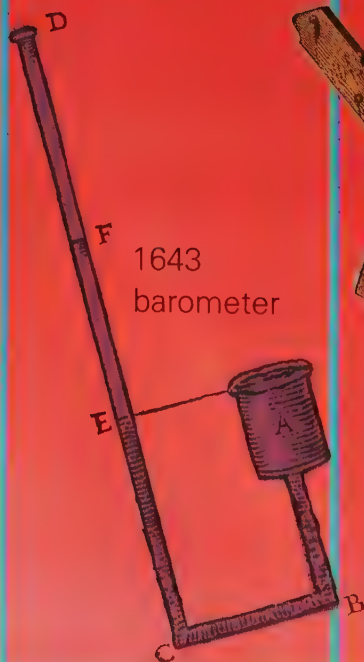


**1600**

1608  
telescope



1643  
barometer



**1700**

1783  
hot air balloon



1792  
cotton gin



**1800**

1860  
can opener



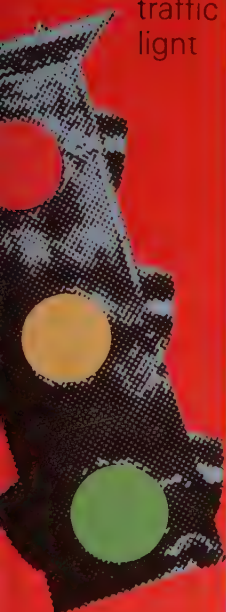
1864  
motorized dental drill



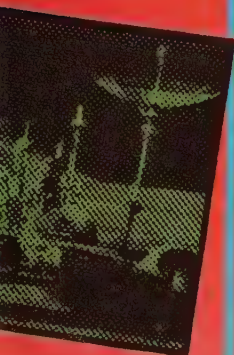
000

2000

1918  
three  
color  
traffic  
light



1971  
lunar rover



?

?

?

?

?

?

?

# Making a Difference

Imagine a world with no books, no lights, no movies, no jets, and no computers. What a difference these inventions have made in the world! But where did they come from? Who thought them up? How did they do it?

The wish to create something new is in all of us. For inventors this wish leads to long hours, hard work, and even the chance of being laughed at. But often what emerges is a spectacular invention, an invention that makes a difference in people's lives all over the world.



# How Can an Outline Help Me?

If you wanted to invent something, you would need to think up some new ideas. You might also need to plan how your invention should be put together, so you could remember how each invention worked.

## *Sharpen Your Skills*

In a similar way, when you read an article you may want to make an outline. An **outline** is a plan that shows the important points of an article. It can help you understand and remember what you read. As you read the following article, notice the main points it gives about two famous women inventors.



## **Women in the World of Inventions**

Many women have added to the world of inventions. One of them was Margaret Knight. Another is Dorothy Rodgers.

Margaret Knight lived from 1838 to 1914. As a small girl, she made kites and sleds. At twelve she invented a safety device used in cotton mills. Then, in 1870, she invented a machine to make a paper bag with a flat, square bottom. This is like the paper bag you get at the grocery store today. She also invented an automobile engine.

She had twelve patents but unfortunately made little money. Yet, when Margaret Knight died, many people called her “Lady Edison.”

A famous woman inventor of today is Dorothy Rodgers. Dorothy Rodgers invented a new cleaning mop. It took her five years to sell it. But she has earned a great deal of money. Dorothy Rodgers has also invented an emergency release latch. It goes inside refrigerator doors to protect small children from getting locked inside.

Before you make an outline, you will find it is helpful to reread the article. This will help you decide the topic of the article. What is the topic of the article you just read? Often the title of an article tells you the topic. In this case, that's true. The topic is women inventors. In an outline the topic of the article is used as the **title**.

What main points does the article tell you about women inventors? It gives you two main points—that one woman inventor was Margaret Knight, and that another is Dorothy Rodgers. These main points in an outline are called **main topics**. Here is the way you could begin to make an outline of this article.

### **Women in the World of Inventions**

- I. Margaret Knight
- II. Dorothy Rodgers



Next, you need to add important information the article tells you about the main topics. What inventions by Margaret Knight does this article tell you about? There are three—a safety device, a machine for making paper bags, and an automobile engine. In an outline, the important points that tell you more about the main topics are called **subtopics**. Below you can see the way to show these subtopics in the outline.

## **Women in the World of Inventions**

- I. Margaret Knight
  - A. Invented a safety device
  - B. Invented a machine for making paper bags
  - C. Invented an automobile engine
- II. Dorothy Rodgers

When making an outline, notice how Roman numerals and capital letters, both followed by periods, are lined up. Notice also where capital letters are used in the title and in the main topics and subtopics.

Look at the same article about women inventors shown again below. Notice the underlined parts. The underlined parts are used in the outline on the following page to show the main topics and subtopics.

### **Women in the World of Inventions**

Many women have added to the world of inventions. One of them was Margaret Knight. Another is Dorothy Rodgers.

Margaret Knight lived from 1838 to 1914. As a small girl she made kites and sleds. At twelve she invented a safety device used in cotton mills. Then, in 1870, she invented a machine to make a paper bag with a flat, square bottom. This is like the paper bag you get at the grocery store today. She also invented an automobile engine.

She had twelve patents but unfortunately made little money. Yet, when Margaret Knight died, many people called her "Lady Edison."

A famous woman inventor of today is Dorothy Rodgers. Dorothy Rodgers invented a new cleaning mop. It took her five years to sell it. But she has earned a great deal of money. Dorothy Rodgers has also invented an emergency release latch. It goes inside refrigerator doors to protect small children from getting locked inside.

## **Women in the World of Inventions**

- I. Margaret Knight (topic)
  - A. Invented a safety device (subtopic)
  - B. Invented a machine for making paper bags (subtopic)
  - C. Invented an automobile engine (subtopic)
- II. Dorothy Rodgers (topic)
  - A. Invented a new cleaning mop (subtopic)
  - B. Invented an emergency release hatch (subtopic)

As you read about Thomas Edison, decide how you might organize the information into an outline.



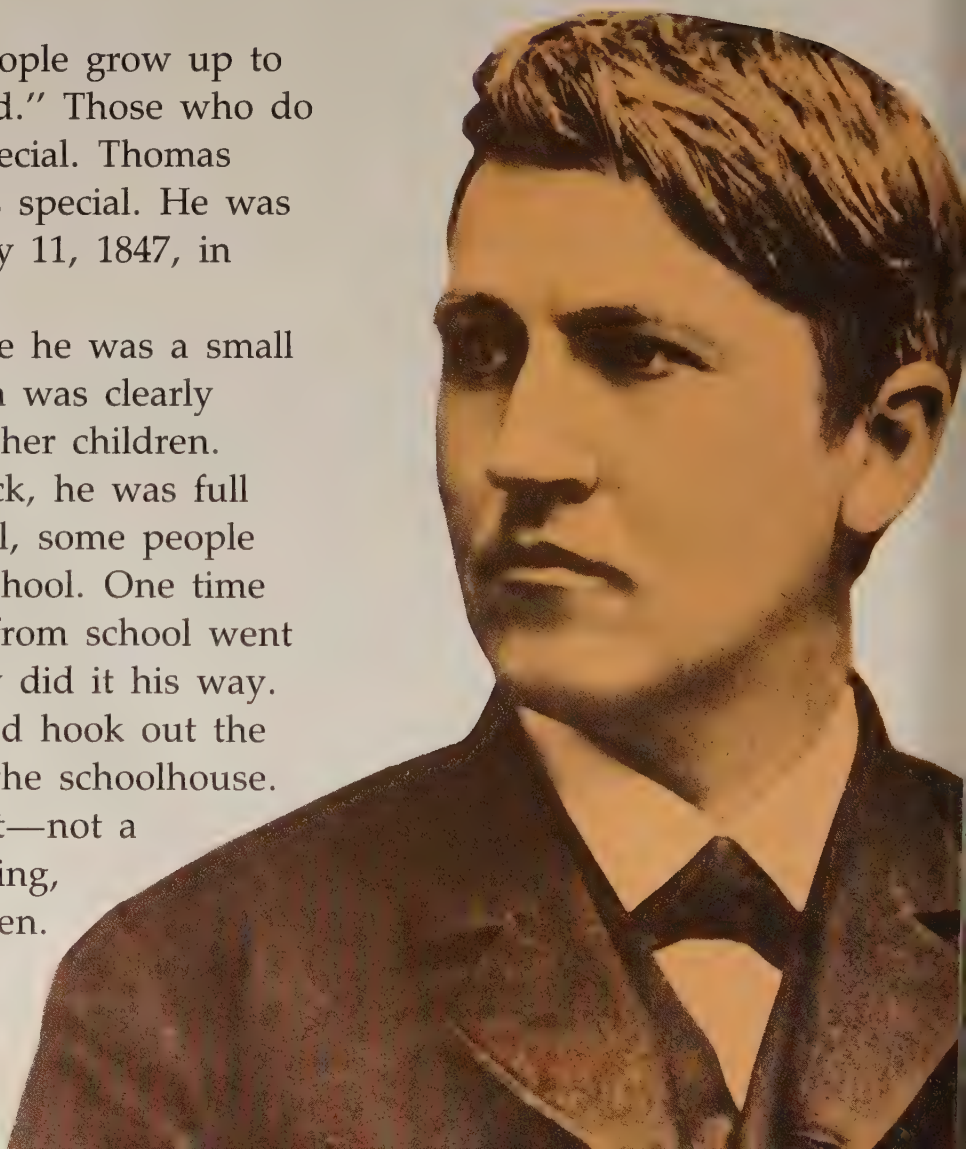
# A Wizard Named Edison

by Gary W. Bargar

## Edison's Life

Not many people grow up to be called “wizard.” Those who do must be very special. Thomas Alva Edison was special. He was born on February 11, 1847, in Ohio.

From the time he was a small boy, Tom Edison was clearly different from other children. Though often sick, he was full of ideas. Too full, some people thought. Take school. One time Tom and a girl from school went fishing. But they did it his way. They put a baited hook out the second floor of the schoolhouse. And they caught—not a fish, but a flapping, squawking chicken.



Tom's teachers did not enjoy this kind of trick. He did not fit in. He asked too many questions. After three months Tom's mother took him out of school. She had been a teacher before her marriage. Now she decided it would be best to teach him at home.

Tom turned out to be a good pupil after all. He loved to read. He also loved to do experiments in the basement. His mother and father encouraged him.

When he was only twelve, Tom went to work for the first time. This was not unusual in those days. He got a job selling newspapers and food on the train from Port Huron to Detroit. He set up a small lab in one of the cars of the train. When Tom was not busy with his job, he liked to work with chemicals. One day, when the train hit a bump, some of the chemicals spilled. They caught fire.

Tom put the fire out, but the conductor was angry. Tom had endangered the train. He boxed Tom's ears hard. Tom had always had trouble hearing. After this his hearing got worse. In later years he was almost deaf.

Tom held other jobs. Starting at sixteen, he worked as a telegraph operator. With the money that he earned, he set up his own

workshop. There he spent hours trying out new ideas, and he stuck with an idea until it worked. Later he would say that genius was “one part inspiration and ninety-nine parts perspiration.”

When Tom grew up, he was married twice. His first wife died young. He loved his family, but he did not spend much time with them. He always had an idea to work on.

### **Edison the Inventor**

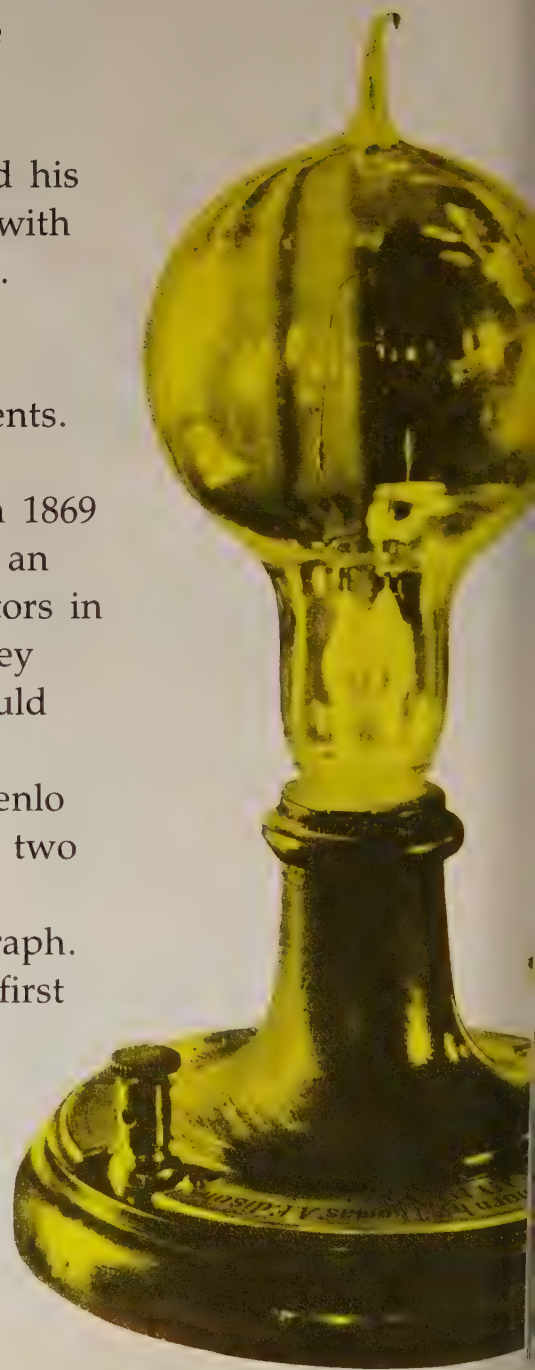
In his life Edison was given 1,093 patents. This set a record.

Not all of his ideas became famous. In 1869 Edison got his first patent. He had made an electric vote-counter. He hoped that senators in Congress would like the vote-counter. They didn't. After this, Edison decided, he would stick to ideas that would sell.

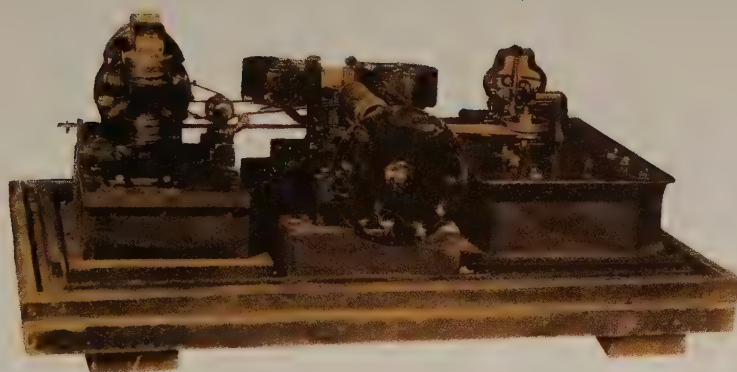
Before long Edison was working in Menlo Park, New Jersey. Here he came up with two of his greatest inventions.

In 1877 Edison made the first phonograph. What great words did Edison say on his first recording? “Mary had a little lamb . . .” As always, Edison enjoyed having fun.

The electric light bulb







The first moving-picture camera

About 1878 Edison set to work on an idea that would change the world. He wanted to make a small electric light bulb. Others had tried. No one had made the idea work. Edison worked for thirteen months. He was in his lab night and day. At last he was finished. In 1879 Edison shared his light bulb with the rest of the world.

People thought the electric light was like magic. They began to call Edison “the Wizard of Menlo Park.”

Edison made many other inventions too. In 1891 he made one of the first moving-picture machines. He also found a better way to make cement.

By the time Edison died in 1931, he was known and admired everywhere. And the many inventions of the Wizard of Menlo Park live on and on.



Edison and his phonograph

## ***Checking Comprehension and Skills***

Look at the outline below about Thomas Edison. Some of the outline is already filled in. Use your answers to questions 1–3 to help you complete the outline.

- 1. The first main topic is “Edison’s life.” There are four subtopics under it. Reread page 286 to complete subtopic A and page 287 to complete subtopic B.
- 2. What is the second main topic? (See the subhead on page 288.)
- 3. How many subtopics are there under the second main topic? Reread pages 288 and 289 to fill in subtopics B and C.

### **A Wizard Named Edison**

#### I. Edison’s life

- A. Born on
- B. Left school and was taught by
- C. Had many jobs
- D. Died in 1931

#### II.

- A. Invented vote counter
- B.
- C.

4. How was Tom clearly different from other children? (286)
5. Who was Tom's teacher after he left school? (See your outline.)
6. Why did Tom's hearing get worse at the age of twelve? (287)
7. What does Tom's definition of "genius" tell you about him? (288)
8. Why does the author say Edison "enjoyed having fun"? (286, 288)
9. What invention of Edison's changed the world? (See your outline.)
10. Why do you think "the Wizard of Menlo Park" fits Edison?
11. Look at the timeline on page 278. Did Edison invent the electric light bulb before or after the can opener was invented?
12. What invention can you think of to list on the timeline for the year 2000?

Tell what the underlined word means in each of the following sentences.

- 13. Tom's parents encouraged him by letting him do experiments in the basement.
- 14. The senators in Congress unfortunately did not like Edison's vote counter.

- Outlining ◦ Structure: Prefixes (*en-*, *un-*)



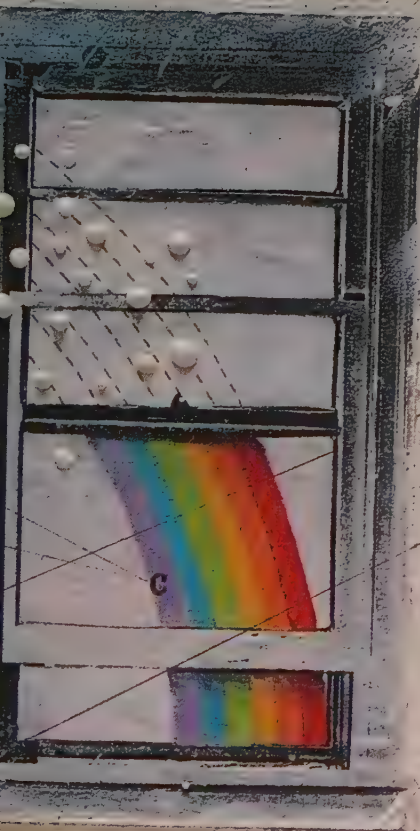


# GO TO YOUR ROOM

What would happen if you went to your room and just sat there for a while thinking about something you'd like? Could you make it? What would you need?

Kids like you have invented trucks, games, robots, and new packaging for cereal boxes.

Take time to think the next time you want something. Perhaps you could invent it and even sell it. (Remember to patent it first.)







# The Amazing Anna Mae

"Right this way," Anna Mae said to Sue. "Here is the room of the one and only Anna Mae, the amazing inventor. But be careful and don't break anything."

"Can I touch these tent-shaped things on the table? What are they, anyway?" Sue asked.

"Those are the world's first fly-proof tents for plants," Anna Mae said. "I made them out of some extra wire screens we had left over from our windows. I cut the screen and carefully shaped the tents into different sizes. All you have to do is place them over a plant you want to protect from flies. I call them 'Fly-Away Tents.'"

"What a strange idea," said Sue.

"Any great inventor is always ahead of the times," Anna Mae told her jokingly.

"We'd better go now, Anna Mae. We don't want to be late for our meeting," Sue said.

"Being late is never a problem for me. I always wear my watch for late people. See?" Anna Mae pointed to her watch.





“But, Anna Mae! Your watch is set one hour ahead of time!” said Sue shaking her head and wondering if Anna Mae was amazing—or just amusing.

“That’s why I’m always early. Would you like me to fix your watch, Sue? Sue? Sue, wait for me. Oh well, I guess I should expect people to act funny. After all, people laughed at Edison too,” sighed Anna Mae as she ran to catch up with Sue.

### ***Sharpen Your Skills***

**Details** are small pieces of information.

Paying attention to details can help you picture what the author is describing. Details can also help you understand the characters in a story.

1. What is the name of Anna Mae’s plant invention? What details let you know that this is a good name for the invention?
2. What details tell you how Sue feels about Anna Mae’s watch for late people? Does Sue think Anna Mae is amazing? Why or why not?

As you read “The Toothpaste Millionaire,” picture the details that tell how Rufus invents his amazing toothpaste and becomes a millionaire.



# The Toothpaste Millionaire

by Jean Merrill

*Kate's friend Rufus is quite a kid. One day when they are shopping, Rufus discovers that toothpaste costs seventy-nine cents. Rufus thinks that paying seventy-nine cents is crazy. So, he sets up work in his kitchen and makes his own.*

The next afternoon when I stopped by Rufus's house to borrow his bike pump, he had about fifty bowls and pans scattered around the kitchen.

"What are you making?" I asked.

"I already made it," Rufus said.

He handed me a spoon and a bowl with some white stuff in it. I took a spoonful.

"Don't eat it," Rufus said. "Just taste it. Rub a little on your teeth."

I tried a little.

"How does it taste?" Rufus asked.



"Not bad," I said. "Better than the kind my mother buys in the pink-and-white-striped tube. How did you get it to taste so good?"

"A drop of peppermint oil," Rufus said. "But I've got other flavors too."

He pushed three other pots of paste across the table. The first one had a spicy taste.

"Clove-flavored," Rufus said. "Like it?"

"I don't know," I said. "It's interesting."

"Try this one."

It had a sweet taste.

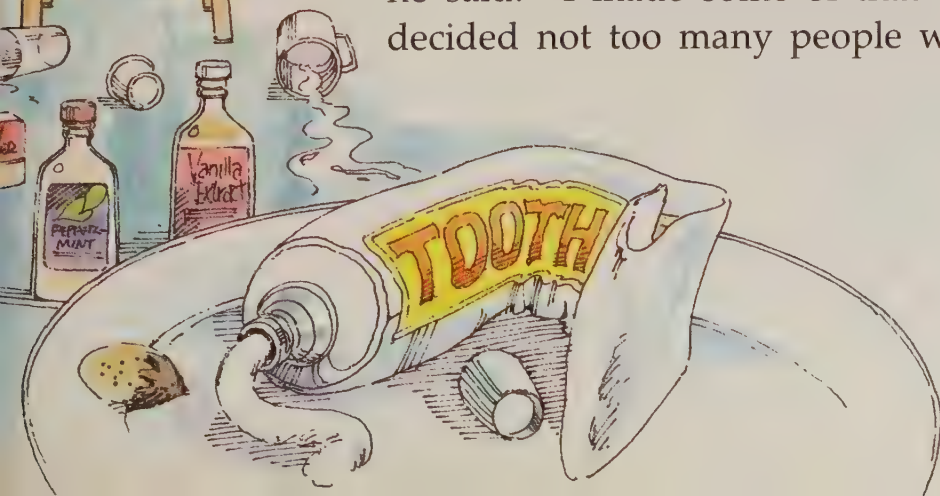
"This one won't be too sweet," Rufus said, handing me another.

"Eeegh," I said and ran to the sink to wash out my mouth. "What did you put in *that*?"

"Curry powder," Rufus said. "You don't like it? I thought it tasted good."

"Maybe it does," I said, "but I don't like it."

Rufus looked disappointed. "I don't suppose you'd like it almond-flavored either," he said. "I made some of that too, but I decided not too many people would take to it."





"What flavor is in that big pan?" I asked.  
"You've got enough of that kind to frost twenty-seven cakes."

"That's no-kind yet," Rufus said. "That's just seventy-nine cents' worth of the stuff that goes in the paste. I didn't want to flavor it till I figured out the best taste."

"What does it taste like plain?" I asked.

"Well," Rufus said, "mostly you taste the bicarb."

"Bicarb!" I said. "You mean all this stuff I've been tasting has got bicarbonate of soda in it?"

Rufus grinned. "Yeah," he said. "It's good for your stomach as well as your teeth."



*Rufus was pleased with his toothpaste. And he figured out that he could sell it for three cents and make money. But Kate wonders how Rufus is going to get rich. He hasn't even advertised it yet!*

I could not see how Rufus was going to get rich on three-cent toothpaste unless millions of people knew about it. Then I had this idea about how he could get some free advertising.

Everybody in Cleveland watches a show called "The Joe Smiley Show." On the show, Joe interviews people who have interesting hobbies.

I wrote Joe Smiley a letter telling him I had this friend who had a hobby of making toothpaste and could make about two years' worth for the price of one tube. And Joe Smiley called up Rufus to ask if he would be on the show.

Joe Smiley is the kind of guy who is always saying things are the "greatest" thing he ever heard of. Or the most "fantastic."

What I mean is, he exaggerates. And *everybody* Joe has on his show is one of the greatest people he ever met or has done the most fantastic thing.

So when Joe does talk about the toothpaste, he gives it this big build-up. Which is what I was counting on. And what does Rufus do?

The conversation went something like this.

JOE: Now Rufus, this fantastic toothpaste you make—I suppose it has a special, secret formula.

RUFUS: No, it's made out of stuff anybody can buy for a few cents and mix up at home in a few minutes.

JOE: Fantastic! And, of course, it's much better than the kind you buy at the store.

RUFUS: I don't know about that. But it tastes pretty good. And for about two cents you can make as much as you get for seventy-nine cents.

JOE: Fantastic! And where can people get some?

RUFUS: If they live in East Cleveland, I'll bring it to them on my bike. Three ounces costs three cents—it costs me two cents to make, and I make a one-cent profit. If anyone outside East Cleveland wants some, I'll have to charge three cents and postage.



JOE: Fantastic! And what do you call this marvelous new product?

RUFUS: TOOTHPASTE.

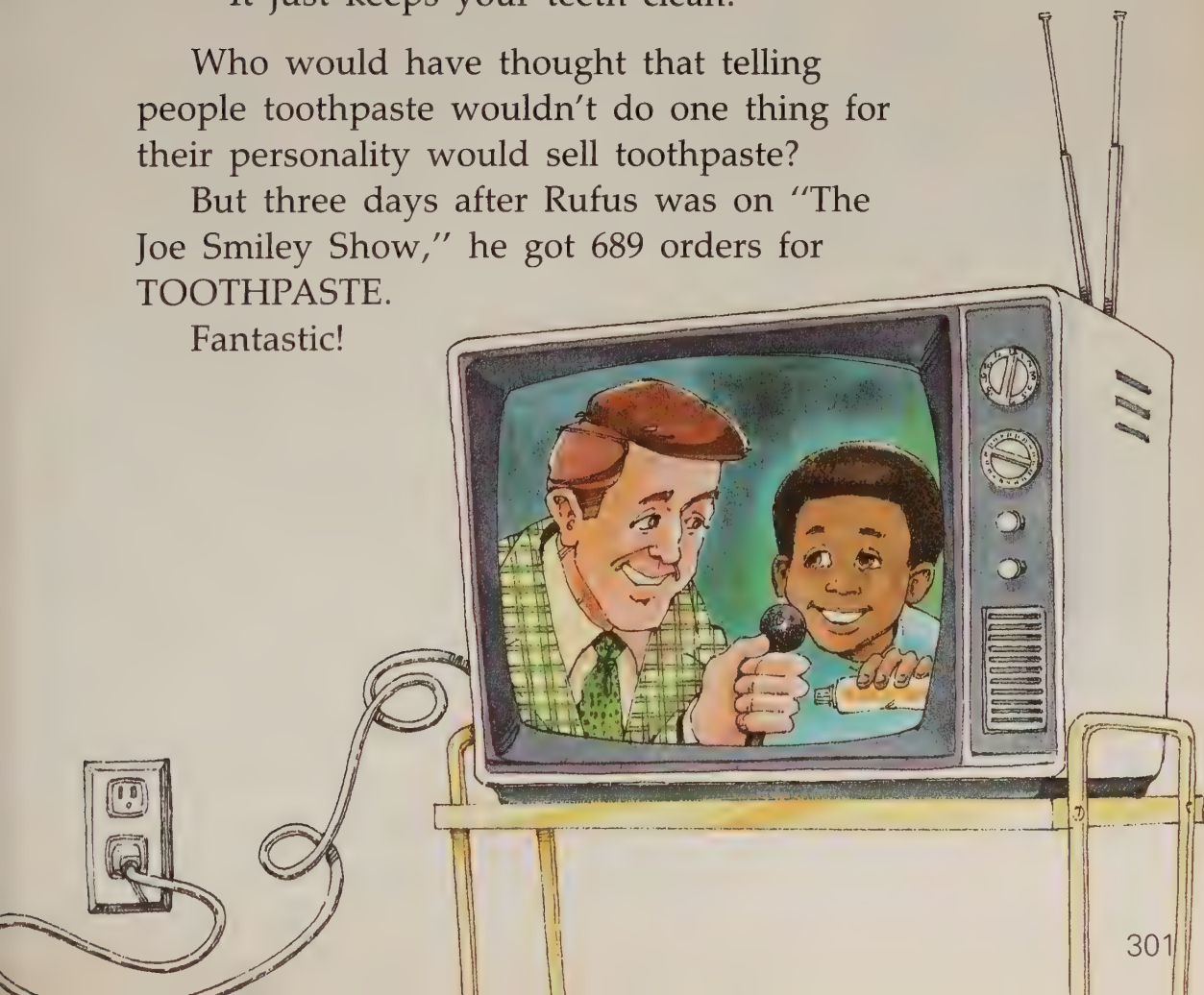
JOE: Just toothpaste? It doesn't have a name like SPARKLE or SHINE or SENSATION or WHITE LIGHTNING or PERSONALITY PLUS?

RUFUS: No, it's just plain TOOTHPASTE. It doesn't do anything sensational such as improve your smile or your personality. It just keeps your teeth clean.

Who would have thought that telling people toothpaste wouldn't do one thing for their personality would sell toothpaste?

But three days after Rufus was on "The Joe Smiley Show," he got 689 orders for TOOTHPASTE.

Fantastic!



## ***Checking Comprehension and Skills***

1. What does Rufus want to make? (296)
- 2. What are the five flavors of toothpaste that Rufus made? (297–298)
3. What did Kate do to help Rufus get free advertising? (299)
- 4. Kate says that Joe Smiley exaggerates. What details let you know that this describes the way he talks? (299)
5. How did Rufus respond to Joe Smiley's questions? What does this tell you about Rufus? (300–301)
6. Was the toothpaste a success? How do you know? (301)
7. Think of two names for the toothpaste—one Joe would like and one Rufus would like.

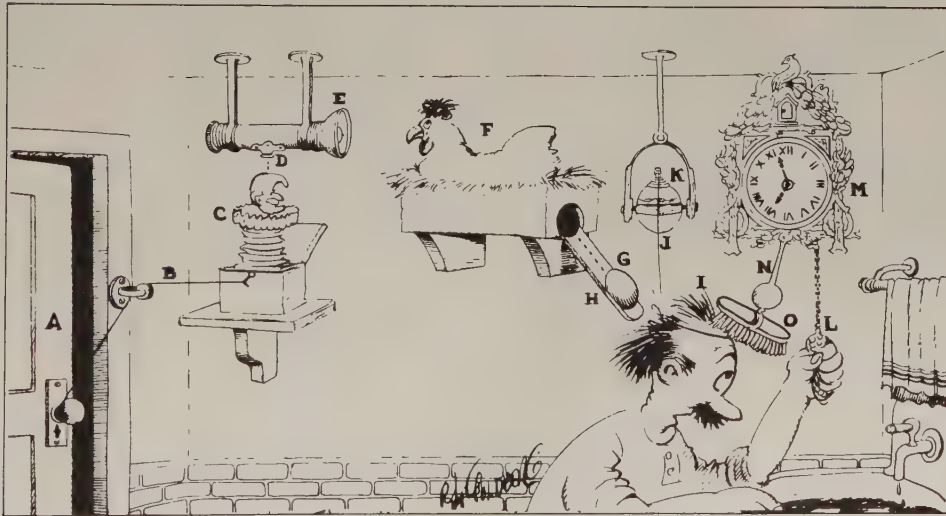
Tell what the underlined word means in each of the following sentences.

- 8. Rufus was disappointed when Kate didn't like the curry-flavored toothpaste.
- 9. Rufus carefully added bicarbonate of soda to his toothpaste.

- Details
- Structure: Prefixes, suffixes, and endings

# Egg Shampoo

Rube Goldberg was a cartoonist. He loved to draw pictures of his own inventions. His inventions take us through all kinds of steps to do a very simple thing.



Don't pay your butcher bill. When butcher comes around for money he opens door (A) which pulls cord (B), releasing Jack-in-the-Box (C) which presses head against button (D), turning on flashlight (E). Hen (F) thinks sun has risen. Hen lays egg (G) which rolls down board (H) and breaks

against your head (I). This causes you to duck and pull string (J) which turns soap jar (K), causing soap to splash on head. You reach for something to hold onto and grab chain (L) that starts clock (M), causing pendulum (N) to rub a brush (O) back and forth on hair.

From the book THE BEST OF RUBE GOLDBERG by Charles Keller, editor.  
Copyright © 1979 by Rube Goldberg. Published by Prentice-Hall, Inc., Englewood Cliffs, New Jersey 07632.





## Sum It Up

If you asked a friend to sum up an article he'd just read, you wouldn't want him to tell you every sentence in the article. You'd just want to hear about the main points.

It's important to know how to sum things up when you read. A summary is a short statement—no more than a few sentences—that gives the main ideas of a selection. You can write your summary or just tell it. A summary can help you remember important ideas from a selection. You can use it to study for a test or to check yourself to see that you understand what you've read.

- For a story, a summary should tell the goals of the characters and how they reached them—or tried to reach them.
- For an article, a summary should tell the main idea or ideas.

A summary is a great invention to help you get more from your reading. Try one!

## Section Eight

# BODYWORKS

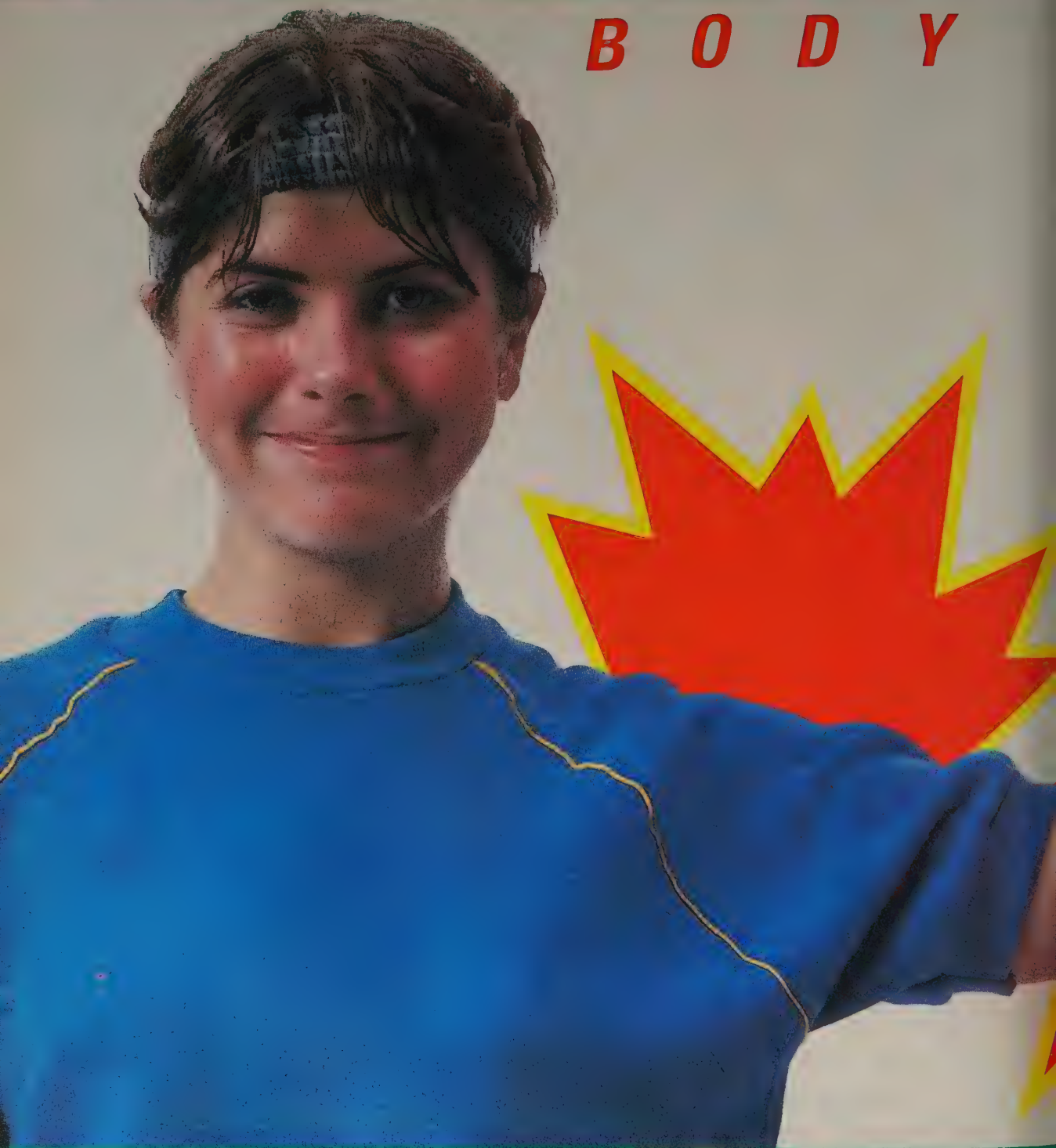


How can friendship grow when people change? 306–317

What makes you shiver and shake? 318–331

Which great discovery came from a game? 332–348

# B O D Y





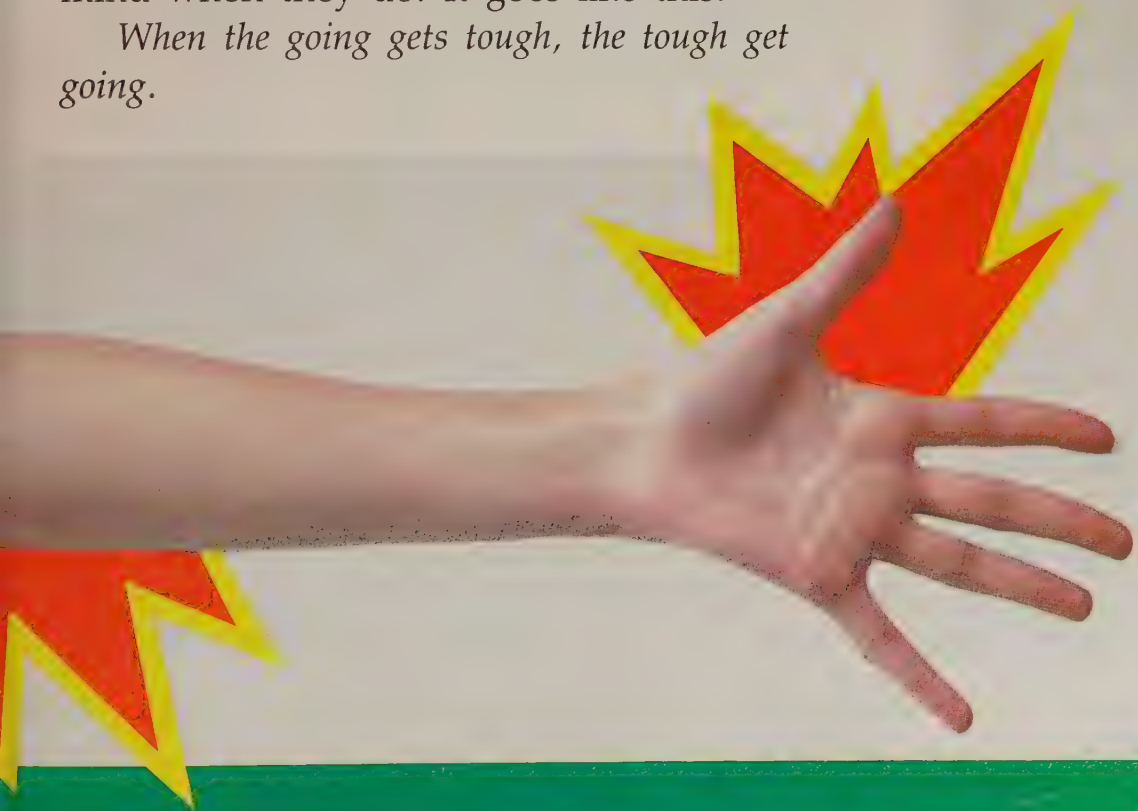
# H A R D S H I P S

Nothing seems to feel as good as feeling good! But sometimes the body *doesn't* feel good; it has a "body hardship."

A person trying to get into shape can have a "body hardship." Oh, the aching muscles! The sore back! The poor panting lungs! A person who is sick or handicapped faces an even more serious hardship.

No matter what "body hardships" people face, there's a good old saying to keep in mind when they do. It goes like this:

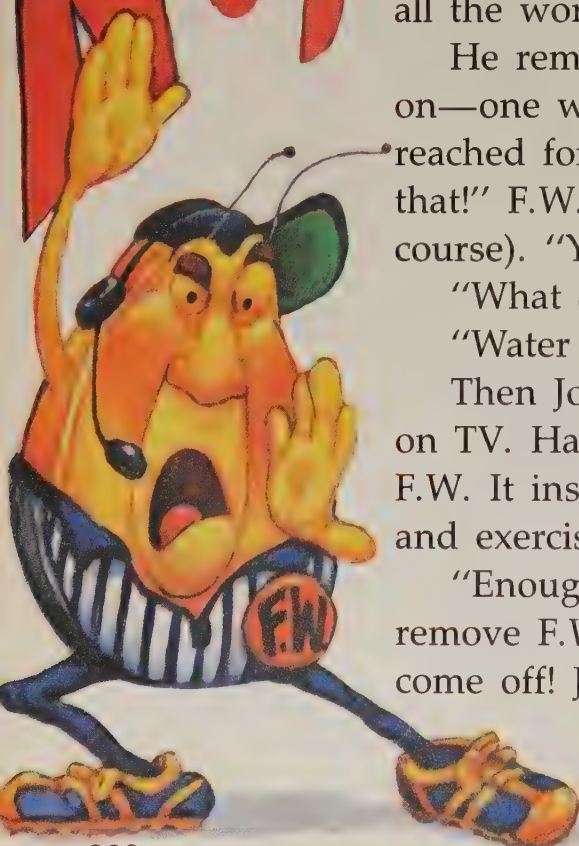
*When the going gets tough, the tough get going.*



# Joe Gets in Shape



NO!



Joe sank into a comfortable chair. He was panting and sweating. And he was dreaming of the good old days before he wore F.W.

F.W. was what Joe called the Fitness Witness. F.W. was a gadget that looked like a bug. It was attached to the ear. F.W.'s job was to get Joe's body in shape. Joe had bought F.W. because he thought it would do all the work. (Joe never read directions.)

He remembered the first time he put F.W. on—one week ago. Five minutes later he reached for a soft drink. "No! You can't drink that!" F.W. screamed (right in his ear, of course). "Your blood sugar will rise!"

"What *can* I drink then?" Joe demanded.

"Water will do nicely," said F.W.

Then Joe sat down to watch a few shows on TV. Harmless enough, wasn't it? Not to F.W. It insisted Joe go outdoors for fresh air and exercise.

"Enough of this!" said Joe, reaching to remove F.W. Big trouble! F.W. would not come off! Joe ran to get the directions that had

come with F.W. They said: *The Fitness Witness will not come off—not until you are in shape.*

So, for a whole week now F.W. had been with Joe. For a whole week Joe had eaten only good food. He had been out running every day. He had even had eight hours of sleep a night (another of F.W.'s rules).

As Joe sat slumped in the chair, he knew for certain that F.W. would get him in shape. But he wondered if getting in shape wouldn't do him in first!

### ***Sharpen Your Skills***

As you read, notice the **sequence**, or the order, in which things happen. Sometimes the events are not always written in the order in which they actually happen. Clue words like "he remembered" help you realize that an event is told out of order.

1. How long had Joe been wearing F.W.?
2. Which happened first? second? third?
  - a. Joe reached for a soft drink.
  - b. Joe put F.W. on.
  - c. Joe realized he would have to do the hard work, not F.W.

Notice the order of events as you read the next story, "The Spectator."





# The Spectator

by Allan Baillie

I first saw her when I was running for home plate, getting ready to dive in under the catcher's mitt. I couldn't see much of her—just a lonely, distant figure leaning on the fence. But I knew there was something about her that was familiar. I realized who it was as I picked my dusty self off the ground.

"Liz!" I yelled, and ran from the game toward her. I had known Liz for years—since preschool. We grew up together playing sports, Liz always excelling.

Liz smiled at me as I came up, but the smile looked as though it was made of plastic. I slowed to a walk and heard the silence. You hear silences. Like when you slam a door against a thunderstorm; or when a fast game



of softball suddenly stops, like now. Behind me, players were running toward Liz, but then hesitating and sometimes stopping.

I could see the shining hooks where Liz's hands used to be. Above everything else, I didn't want to show my shock and surprise on my face. I stared at Liz's face, and she clicked her hooks at me.

"Hi," she said to us all. "I'm back. Well, nearly."

Someone said, "Hey, that's terrific!" And a lot of the girls said things like "Knew they couldn't keep you," and "You're looking good." Then a silly kid said, "You gonna be captain again, Liz?" And everyone was quiet.

"How are you doing, then?" I asked. I didn't know what else to say.

"I'll be back next year. May not even stay behind a grade," Liz replied. "Hear you got to be captain of my team."

"Yeah." What could I say?

"Well, look, I'm just a spectator. See you after the game, okay?" Liz waved us off with her right hook. I can't say we weren't glad enough to get back to the game. But it left us with a very heavy feeling. We left her there in the distance, motionless and watching everything we did.

Liz Ferrar had been our school softball captain. She was so good that several scouts had been previewing her. She could place the ball just about anywhere in—or out—of the ball field. She had a throwing arm that could toss planets around. And she stole so many bases we called her The Thief.

That was six months ago. Then a man in a sports car hit her bike at eighty miles an hour. Liz had disappeared into hospitals until now.

We all had known what had happened to her. Some of us—her closest friends—had gone to see her in the first hospital. But then she had been moved to a hospital in a larger town. It had all seemed unreal until now.

As we walked back onto the ball field, I saw a lot of the other girls moving their fingers as if they were making sure they were there. I realized I was doing it too. We batted,





scooped up balls, and ran. And all the time, Liz was standing like a misfit against the fence, watching us do things she could no longer do. It was turning out to be a very bad game.

In the eighth inning, I twisted my ankle running to catch a ball, and had to hobble off the field.

"You were playing too deep in right field for that batter," Liz began pointing out. "She almost always chops it to the infield or flies out." Liz had always prechecked every player's game before we played. She hadn't forgotten.

I pulled myself to my good foot and stood beside her. "You're right. I misplayed that," I said.

"That's all right. You'll still win." She pulled a packet of nuts out of her pocket with one hook, opened it with the other, and offered it to me. She did it all as effortlessly as I could have done with both my hands.

"You're very good with those . . . things," I said.

"Ah, you get accustomed to them."

I tried to laugh. I wanted to cry.

She looked at me closely, and suddenly I had the sensation I was talking to a far older girl. She was very old.

"It's not that bad, Gail, really," she said. "Sure, it's hard to put up with in the beginning. It hurts a lot, and the nurses do everything for you. They change the bed, give you a bath, feed you—everything. But after that it gets to be a game. Did you know we have to learn how to pick up eggs without breaking their shells? It's fun finding out what you can do."

I wobbled dangerously on my bad foot. She steadied me with the back of a hook.

"See?" she said. "Good as a hand. They're going to give me mechanical hands. Not as good as these for getting things done, but people stop looking at you as though they want to throw money into a hat."

Suddenly a batter fouled and the ball soared at us. Without thinking, I reached up and plucked it from the air. Liz's hooks clattered helplessly about my elbows. Liz looked at me in pain for an instant. I threw the ball back to the field.

We watched the game for another ten minutes. Then I realized that I was alone. Liz was about half a block away, walking slowly home from the field.

It took me three days to find the courage to go over to Liz's house. I didn't have the faintest idea what I would do or say when I got there.

Halfway over I saw Liz. She was in a jogging suit, running down a dirt track in the park. She wasn't wearing her hooks and her arms were pumping like pistons.

"Liz!" I hollered. She looked back and slowed down for me to catch up. I fell into step, running alongside her.





I think I started off with the idea of letting Liz run a little further than me—just to make her feel fit. Had I misjudged her! I hadn't known that Coach Hawkins had her in training for track. After running two miles at Liz's fast pace, I could hardly breathe, let alone run. Not Liz. She had been running for six miles before I even joined her. Even now she wasn't the slightest bit winded.

"Give me a break. Slow down!" I puffed.

"Next time I'll give you a handicap," Liz said. "I'll run on one leg!"

Liz giggled, and she wasn't old anymore.

We stopped running then, and Liz rested an arm on my shoulder. "C'mon," she said. "Let's have some lemonade."

On the way back it was like the old days—talking about our big dreams, lost games, and championship seasons to come.



## Checking Comprehension and Skills

1. Why was Liz “just a spectator” at the ball game? (311–312)
- 2. When did Liz’s accident take place? (312)
3. Why did the girls find it difficult to know what to say to Liz?
4. Why did Liz leave the game? (314)
5. Why did Gail say Liz “was very old” and then say Liz “wasn’t old anymore”?
6. Did Liz and Gail’s friendship grow after Liz’s accident? Why or why not?
- 7. Which of the following events happened first? second? third? fourth?
  - a. Liz was hit by a car.
  - b. Liz was running at least six miles a day.
  - c. Liz was the softball team captain.
  - d. Liz learned to use hooks.

Tell what the prefix and root word is for each underlined word. Then tell what each underlined word means.

- 8. Liz liked to precheck each player before we played softball.
- 9. I didn’t think Liz would outrun me, but she did. I wouldn’t misjudge her again.

- Sequence: Time sequence
- Structure: Prefixes (*pre-*, *mis-*)





Hi there. I'm your body.  
I'd like to tell you a bit about  
myself. Yourself. Whatever.

I don't mean to brag, but  
I figure I'm the hardest worker  
you'll ever meet. Even when  
you're sleeping, I'm busy  
pumping blood, digesting your  
late snack, and sending you  
to the dream zone.

And if germs are on the  
prowl—look out! I fight  
twenty-four hours a day.

You're going to find out  
more about what I do for you.  
Read on, my friend. You may  
be impressed!

# The Sleep Cycle

by Everett Mattlin



We get into bed; our muscles relax; our minds wander. Then, snap, we're asleep. Sleep does not come gradually. It just happens, in a second. We're in Stage One of sleep. Stage One is a very light sleep. If we wake up out of it, we're hardly aware that we had fallen asleep.

After about fifteen minutes, we move into Stage Two. If something wakes us up then, it takes a few seconds to come out of it. We know we've been asleep.

We reach Stages Three and Four about a half hour after falling asleep. These are both stages of deep sleep. A person in deep sleep is remote from the "real" world and very hard to wake up. The heartbeat and respiration are very slow.

And then, after about a half hour of deep sleep—one hour after sleep began—a reversal starts. We back away from Stage Four into Stage Three again. Then we back into Stage

Two. And then something wholly different happens. What follows, in fact, is more like a waking state than a sleeping one. The heart and breathing rate speed up. Often the face and hands twitch. We have vivid dreams. Our eyes dart back and forth. This stage is called *REM* which stands for *Rapid Eye Movement*.

It takes most of us ninety minutes from the time we fall asleep to go through Stages One, Two, Three, Four, Three, Two, *REM*—a whole cycle. Then the steps are repeated, except that we move from *REM* sleep right to Stage Two. If we sleep seven and a half hours, we'll go through five whole cycles.

### ***Sharpen Your Skills***

The article above explains how sleep works. One step has to take place before the next one can. When you read articles like this, notice the order of the steps.

1. How many times in one cycle do we go through Stage Three?
2. How many times during a night's sleep do we go through Stage One?

Notice the order of steps as you read the next articles about your hard-working body.



# Your Body at Work

by Marie Winn

## What happens when you get a cold sore?

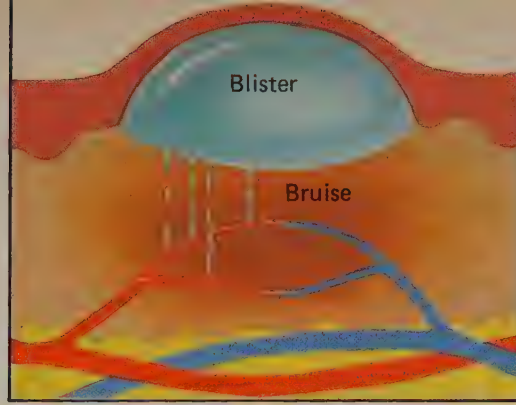
A **cold sore** is a painful, reddish spot that appears around the lips and sometimes at the base of the nose. The spot swells up and gets oozy. It usually lasts for a week or two. When it begins to heal, a scab forms. The scab falls off when the sore is all healed beneath it.

## What happens after you get your first cold sore?

The cold sore is caused by a **virus** that works in a very interesting way. After the first time you get the cold-sore virus, it moves into a nerve inside the lining of the mouth. It goes up that nerve to its end, behind your eye in your skull. There it sits and waits, even though you have no idea it's there. Then, at some time, you become sick with a cold or have some other body hardship. Your body is too busy fighting other things to worry about the cold-sore virus. The virus takes this time to steal back down the nerve and come out around your lip or nose. There it bothers you by causing a cold sore.

### Did You Know?

**Virus** comes from the Latin word *virus*, meaning "poison."



### What happens inside your body when you get a blister?

Your skin is made up of three separate layers. **Blisters** are caused by some hurt to the second layer of skin. A burn or a tight shoe rubbing against the skin may cause the hurt. Extra blood rushes to the spot. Tubes that carry blood leak out extra liquid near the spot. Meanwhile, the tough, top skin has not broken. This holds the liquid in one place. The extra liquid covers the hurt spot and keeps germs from growing there. It also takes away hurt skin cells so that new skin cells can grow in their places. When the blister's work is done, it goes away.

**blister**, a small swelling in the skin filled with watery matter

### Why do you sometimes get the shivers and shakes when you have a fever?

Usually you shiver and shake only when you are very cold. It seems strange to get the shivers when you're hot with a fever. Here's

what's going on inside your body whenever you shiver.

On a cold day, your body needs extra heat to keep the inside temperature normal. And so your brain sends a message to many muscles inside your body: BEGIN TO SHIVER AND SHAKE! When muscles move very quickly they make heat. This heat warms you up inside and keeps your body heat from getting too low.

The shaking you do when you have a fever also makes heat. This time, though, the body needs to make the temperature *higher* than usual to fight a sickness. You don't shiver *because* you have a fever. You have a fever *because* you are shivering!

### **How does your body know when to raise the temperature and give you a fever?**

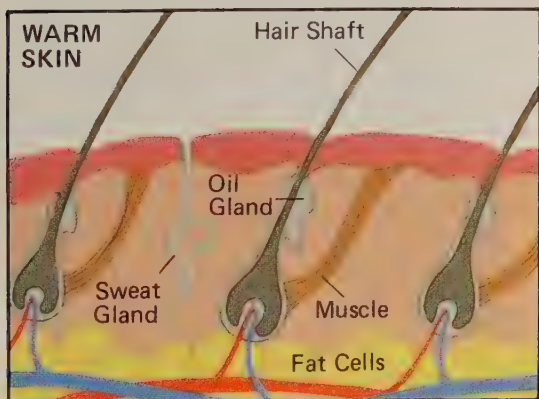
Germs that settle down in your body when you are sick give off wastes. These wastes get into your blood. The blood makes its way around the body. When the blood with the germ wastes reaches the brain, it goes through a certain place that rules your body heat. Here the wastes leave a message: LOOK OUT! GERMS AT WORK SOMEWHERE! The brain then sends a message back to different parts of the body: START WORKING DIFFERENTLY!



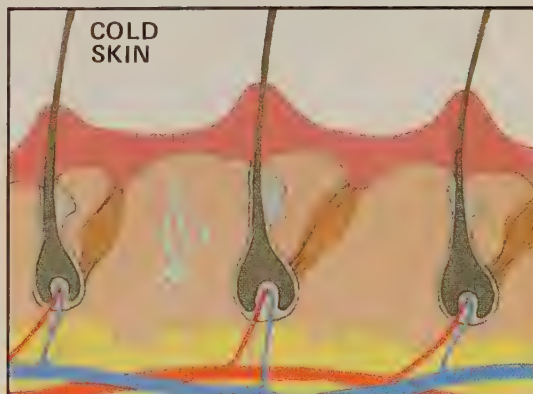
The sweat glands stop sweating. Little muscles start shaking. Soon you have a fever.

### **What are goosebumps and why do you get them?**

There is hair on almost all parts of your skin except for the lips and the bottoms of your hands and feet. These hairs may be so fine that you can hardly see them, but they are there. At the base of every single little hair is a tiny muscle cell. When your skin gets cold this muscle cell tightens up in order to warm up your skin. This makes the hair stand up on your skin, causing a little bump.



When you are warm and at ease, your skin looks like this.



When you are cold or upset, tiny muscles in the skin tighten and cause goosebumps.

# After the First Bite

By Patricia Demuth

You lean back in your chair. You pat your stomach. "Goodness, that meal was tasty!" you say.

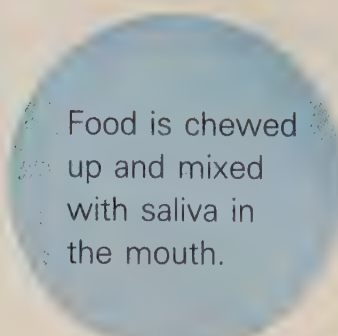
Do you know what you just did? You just sent food on a long, busy trip. The food you ate will be churned, pushed, squeezed, and mixed. It is on its way to being digested.

## Mouth

The mouth is the first station on this trip. Here the food must be chewed into

small enough pieces before it can be sent ahead. Your teeth act as knives—cutting and tearing the food. Your tongue acts as a mixing spoon. It mixes the food around with a juice called *saliva*.

Saliva is the first of several juices that the food will meet up with on this trip. All the juices help break down the food.



Food is chewed up and mixed with saliva in the mouth.



## Esophagus

The chewed food now goes down a tube called the *esophagus*. This tube is strong, made mostly of muscle. The muscle squeezes the food along until it reaches the next station—the stomach.

## Stomach

Think of the stomach as something like a plastic bag. It can stretch and stretch and s-t-r-e-t-c-h to hold the food and liquid we pour in!

You might also think of the stomach as a churn, for it does the same work. It churns the food up, down, and around, mixing it with juice that pours in from the walls of the stomach. As it churns, the stomach must look a bit like a sluggish washing machine!

Food stays in the stomach for two to five hours. Breads stay there for the shortest time. Meats stay a little

longer. Fats stay the longest. So, if you eat a hamburger, the bun is the first to go out of the stomach. The meat goes next. Fats and oils lag behind.

When food leaves the stomach it is like a thick soup.



Food is churned and mixed with juices in the stomach.



## Small Intestine

*Small* intestine? Not really. The small intestine is about twenty feet long. However, it is not very wide, which is why it's called small. You've probably seen lots of pictures of what your insides look like. The small intestine is the part in the middle that looks like a vacuum hose wrapped around every which way.

In the small intestine, food is changed to the form in which the body can use it. Strong juices work on the food. The small intestine makes some of the juice. Organs help out in a kind of partnership. Juice from the pancreas<sup>1</sup> pours in from a tube. From another tube comes a juice that was made in the liver and stored in the gall bladder.

---

1. pancreas (pan'krē əs)



Food is changed to a usable form in the small intestine.



Digested food goes from the small intestine into the blood stream, and then to the cells.

At last, the trip is over. Digestion is done. Some of the food the body can't use goes to the large intestine. The rest of the food is now so runny that it can pass through the walls of the small intestine. It goes right into the stream of blood flowing by. Blood carries the "food" to all cells of the body. The cells burn the "food" for energy. Now it will become energy.

You may think that the food you ate now looks like a MESS. In fact, that's a good way to remember the steps of digestion. The letters in MESS stand for the places the food has been during the process of digestion: *Mouth, Esophagus, Stomach, Small intestine.*

But though it may seem like a MESS to you, your cells are now saying "Yum!"

## Checking Comprehension and Skills

1. What causes a cold sore? (322)
2. What is a blister? (323)
3. How does shivering help you fight a sickness? (324)
4. Why do you think the article on pages 322–325 is titled “Your Body at Work”?
- 5. Which of the following parts of the body does food pass through first, second, third, and fourth as it is being digested? (326–328)
  - a. esophagus
  - b. small intestine
  - c. mouth
  - d. stomach
- 6. What parts of a hamburger go through your stomach first? next? last? (327)
7. What kinds of food do you like to eat that are good for your body?

Tell what the suffix and root word is for each underlined word. Then tell what each underlined word means.

- 8. Goodness, that meal was tasty!
- 9. The stomach looks a bit like a sluggish washing machine.

- Sequence: Steps in a process
- Structure: Suffixes (-ness, -ish)



# SOME BODY!

Here are some pretty amazing facts you may not know about your body.

1. Every fifteen to thirty days, your body entirely replaces the top layer of skin.
2. Most people shed about forty pounds of skin during their lives.
3. Your skin makes up about sixteen percent of your body weight. So, if you weigh one hundred pounds, your skin weighs about sixteen pounds.
4. Bones are alive. If they break, they'll grow back together on their own.
5. You have over one hundred bones in your body. Nearly half of them are in your hands and feet.
6. Inside your body there are about sixty thousand miles of blood vessels.
7. Most people lose thirty to one hundred hairs from their heads each day.
8. Your heart beats more than one hundred thousand times in one day.
9. About three billion old cells die every minute in your body. They are replaced by three billion new cells.

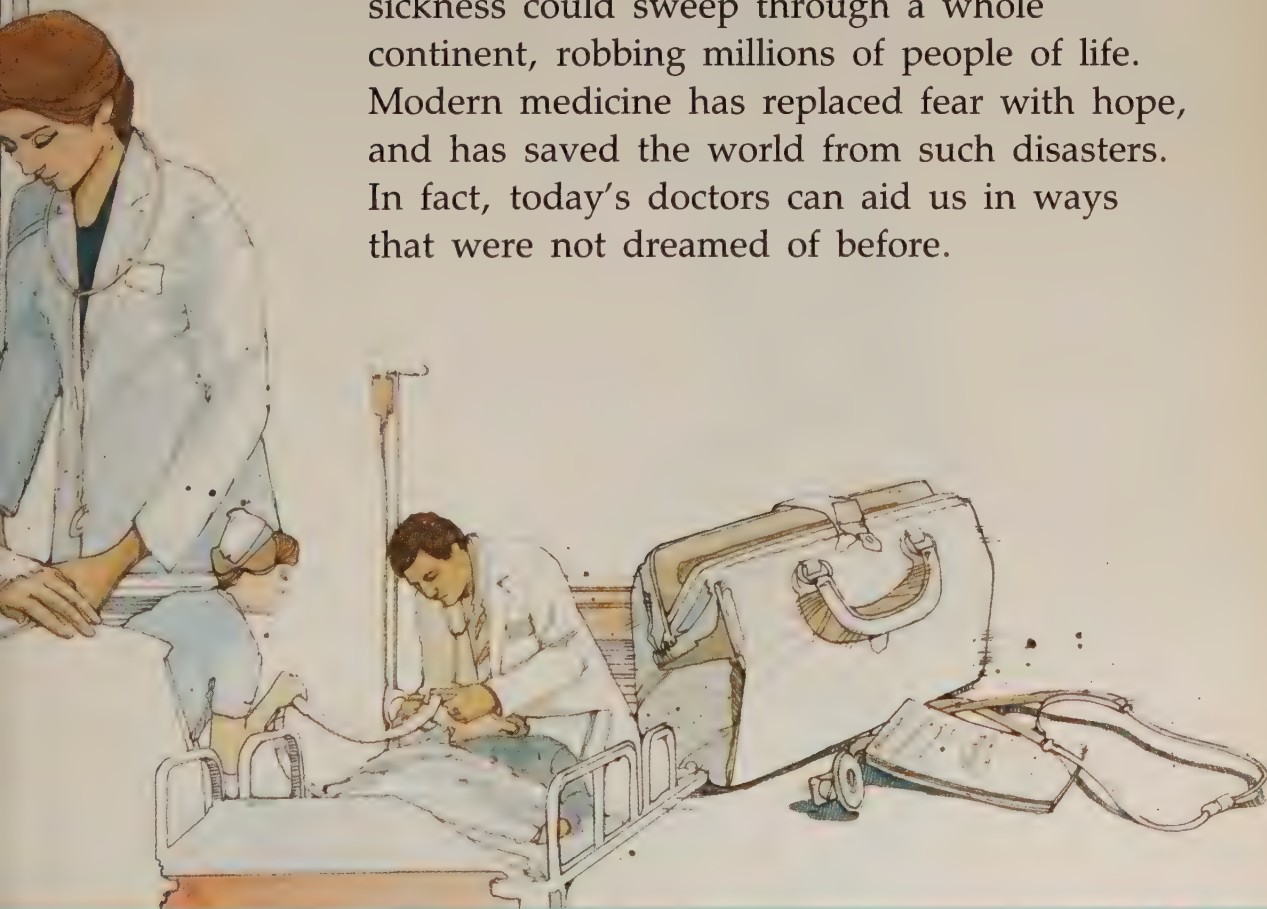


# DOCTORS:

## The Wonder-Workers

During the 1300s, a terrible disease attacked Europe. It was called the Black Death, and it killed about one-fourth of all the people there.

Today, it is hard to believe that any sickness could sweep through a whole continent, robbing millions of people of life. Modern medicine has replaced fear with hope, and has saved the world from such disasters. In fact, today's doctors can aid us in ways that were not dreamed of before.





## Using a Diagram

Suppose you are interested in becoming a doctor. You would need to work with a microscope. What could you learn about using a microscope from looking at the picture? You could get an idea of how a microscope is used. But to understand how a microscope works, you would need to know the parts.

### ***Sharpen Your Skills***

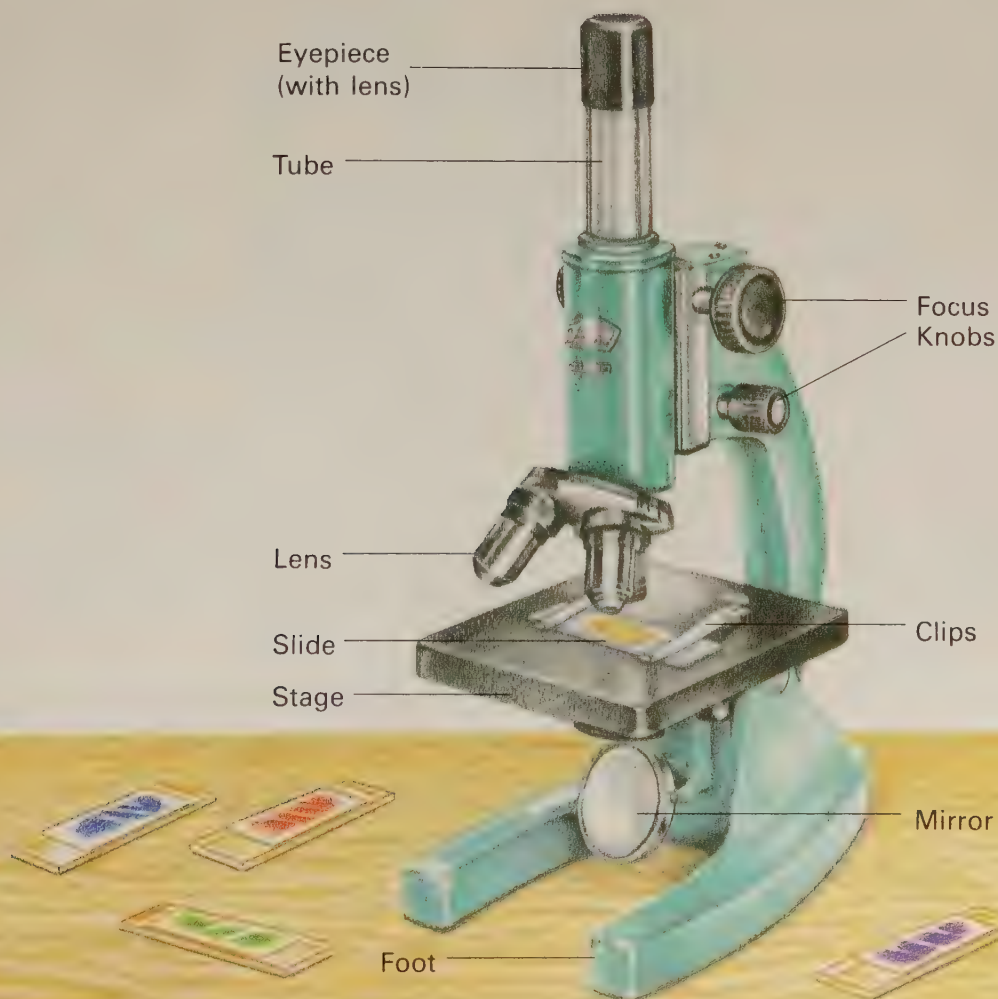
You could find out about the parts of a microscope and how they work by reading about them. You could also look at a diagram. A diagram is a special drawing with labels. It shows how something is made or how it works.

Notice how the diagram shows parts of a microscope. Use the diagram to help you understand the paragraph on the next page.

A microscope is used to make something that is small appear larger. Take a little bit of what you want to look at. Put it on a **slide**. Clip the slide on the **stage**. Look through the **eyepiece**. Turn the **focus knobs** until you can see what is on the slide clearly. There are two **lenses**.

One is in the eyepiece and one is just above the stage. The lenses make what you are looking at seem larger. If you need more light on the slide, you can move the **mirror**.

Turn the page to find out more about using a diagram.



You can see that each important part of a microscope is labeled on the diagram. Suppose you want to know where the stage is. Find the word *stage* on the diagram. Notice that a line points from this word to the picture of a stage. A line also connects the name of each other part to its picture on the diagram.

Now read page 335 again to find out how to see something under the microscope clearly. Use the diagram to answer the following.

1. What part do you look through? Where is it?
2. What do you turn when you want to see a slide more clearly? Where are these parts?

You look through the eyepiece at the top of the microscope. To see a slide more clearly, you turn the focus knobs on the side of the microscope. Did looking at the diagram help you understand these parts?

Now use the diagram to answer the following.

3. What holds the slide onto the stage?
4. What part do you move if you need more light on the slide? Where is that part?

When you read the following selection, use the diagram to help you understand "A Tool That Can 'Hear' Disease."



# A Tool That Can “Hear” Disease

by Edward F. Dolan, Jr.

Anyone who has ever been to a doctor has seen a stethoscope. Today, it is one of the tools that doctors use most.

The stethoscope helps a doctor hear clearly the sounds made by the heart and lungs. To hear these sounds made inside the body, a doctor places the stethoscope against certain points on a person's chest or back.

## **Sounds the Chest Makes**

What sounds does the doctor hear? When the lungs are well, they give off a rushing sound. However, the sounds made by sick lungs are much different. Let's say a person is suffering from asthma. The sound coming from the person's chest is very high and tight. It is like a whistling sound.

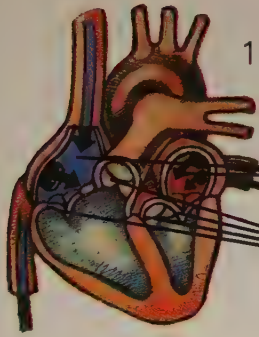
A well heart makes a *lubb-dup* sound. To understand what makes this sound, try to picture the heart. It is made up of four separate chambers. Think of them as rooms. There are two "rooms" on top and two on bottom. Blood leaves the "rooms" through *valves*. Think of them as one-way doors.

Blood flows into the upper "rooms" from other parts of the body. When these "rooms" are all filled, the upper heart contracts, or "squeezes" open two "doors" which lead to the lower "rooms." When these "doors" close, they make a long low sound—*lubb*. After the lower "rooms" fill with blood, this part of the heart contracts. This forces open two other "doors" and blood is pumped out of the heart. The snapping shut of these "doors" makes a quick *dup* sound. (See the diagrams at the top of page 339.)

When a heart is not well, the "doors" make unusual sounds as they close. For example, a "door" may not close tightly. By listening with a stethoscope a doctor can hear blood leaking through when it shouldn't.

Each disorder of the heart makes its own noise. One kind of noise sounds like a busy machine shop. Another noise sounds like a cannon shot. Just by listening, the doctor can often tell what's wrong.

## How the Heart Works

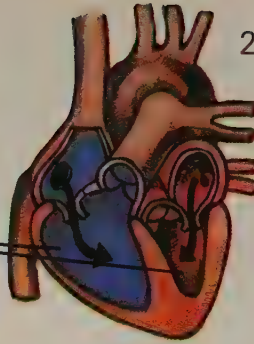


1. Blood flows into the upper rooms.

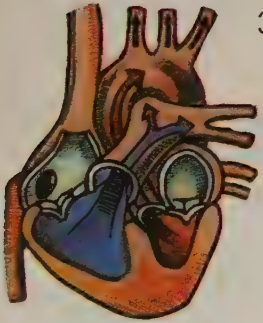
upper rooms

doors

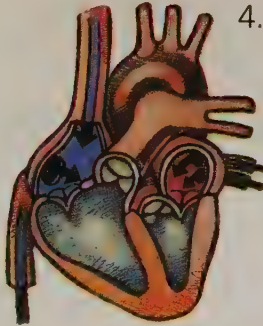
lower rooms



2. The upper rooms fill with blood, forcing open doors 1 and 2. Blood is pumped into the lower rooms.



3. Blood fills the lower rooms. Doors 1 and 2 close, causing the *lubb* sound. Doors 3 and 4 open when lower rooms are full. Blood is pumped out of the heart.



4. Doors 3 and 4 snap shut causing the *dup* sound. More blood flows into the upper rooms. The process begins again.

## Trying to Hear the Heart

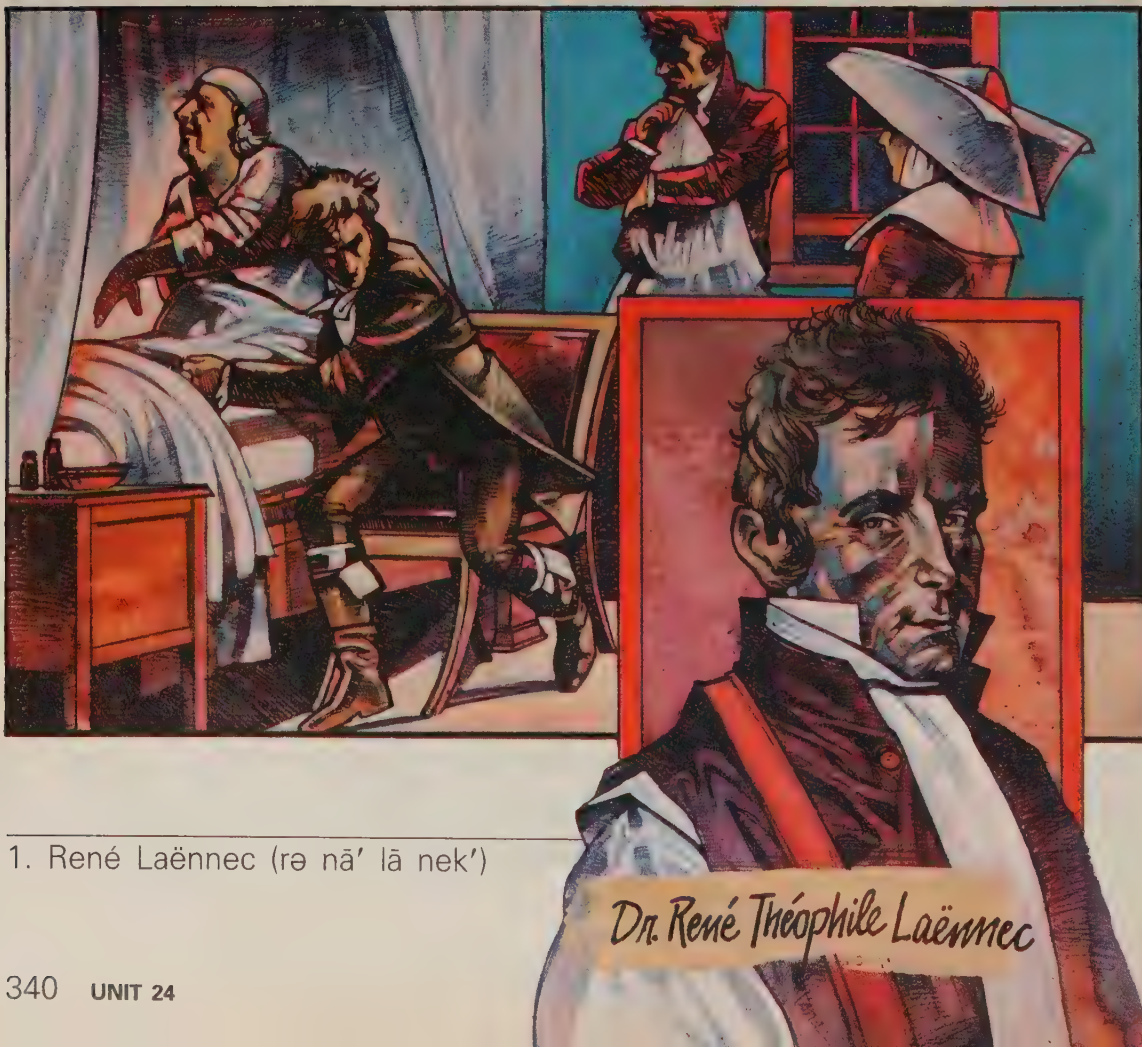
Since the 1600s, doctors have known that the heart is a very important organ in the body. Yet for many years they had no way to study the heart. They could not observe the heart in action because they had no way of looking inside the body while it was alive. So, they did the next best thing. They listened to the heart pumping away, making its *lubb-dup* sound in the healthy person, or its strange noises in the ill person. Back then, doctors listened in the simplest manner possible—by placing an ear right against the patient's chest.



But this way did not work well enough. There were other noises that got in the way. The noises from the outside world reached the doctor's free ear. And other rumblings and rattles from inside the body got in the way of the doctor's hearing the heart clearly.

### Dr. Laënnec Invents Stethoscope

And there was the hardship that Dr. René Laënnec<sup>1</sup> had in 1819.



1. René Laënnec (rə nā' lā nek')

Dr. Laënnec was a frail man who worked at a hospital in Paris, France. In the spring of 1819, he was both angry and troubled. One of his patients lay very ill. Her face was pale and beaded with sweat. Her breathing was heavy and pained. Dr. Laënnec had spent most of his time as a doctor studying diseases of the chest—heart and lungs. His interest in great part came from the fact that he himself had suffered from a chest disease. Ever since he was a child, Dr. Laënnec had had tuberculosis.

Dr. Laënnec was sure that his patient was suffering from some heart trouble. But he just could not be sure. His patient was a very large woman. She was so large, in fact, that when the young doctor placed his ear against her chest, all the layers of fat kept him from hearing the beat of her heart at all!

How in the world, he asked himself, could he give her good care? He could not pretest her to determine if she had heart trouble.

Dr. Laënnec worked with the problem all that spring day at the hospital. When he went home, he fought for an answer far into the night. He had to find some way to hear the beat of what he thought was a very sick heart. But, no matter how hard he tried, he could think of no way to hear the woman's heart.

Morning found Dr. Laënnec very tired. As he walked toward the hospital, his hands were locked behind his back. His mind was still struggling for an answer of how to hear the woman's heart. Laënnec's path took him through a garden. All about were sounds—clatter of horses on the street, the talking of people, the laughter of children.

Slowly, that laughter broke through Laënnec's thoughts. He looked up to see a group of children gathered about a long board on the grass. He smiled at the sight of them. All but one, a young boy, were gathered about one end of the board. They were kneeling with their heads lowered right down to the wood. At the other end, the boy was kneeling beside the board, tapping it with a stick. The children laughed with delight at the sounds which met their ears. The sounds traveled down the board from the boy's stick. They were loud—much louder than if they were heard while the boys were standing.

Suddenly the distant smile faded from Dr. Laënnec's face. A look of sharp thought replaced it.

He slapped his hands together. He knew what every school child in France knew: that sound moves through something solid better than through the air. Why hadn't he thought

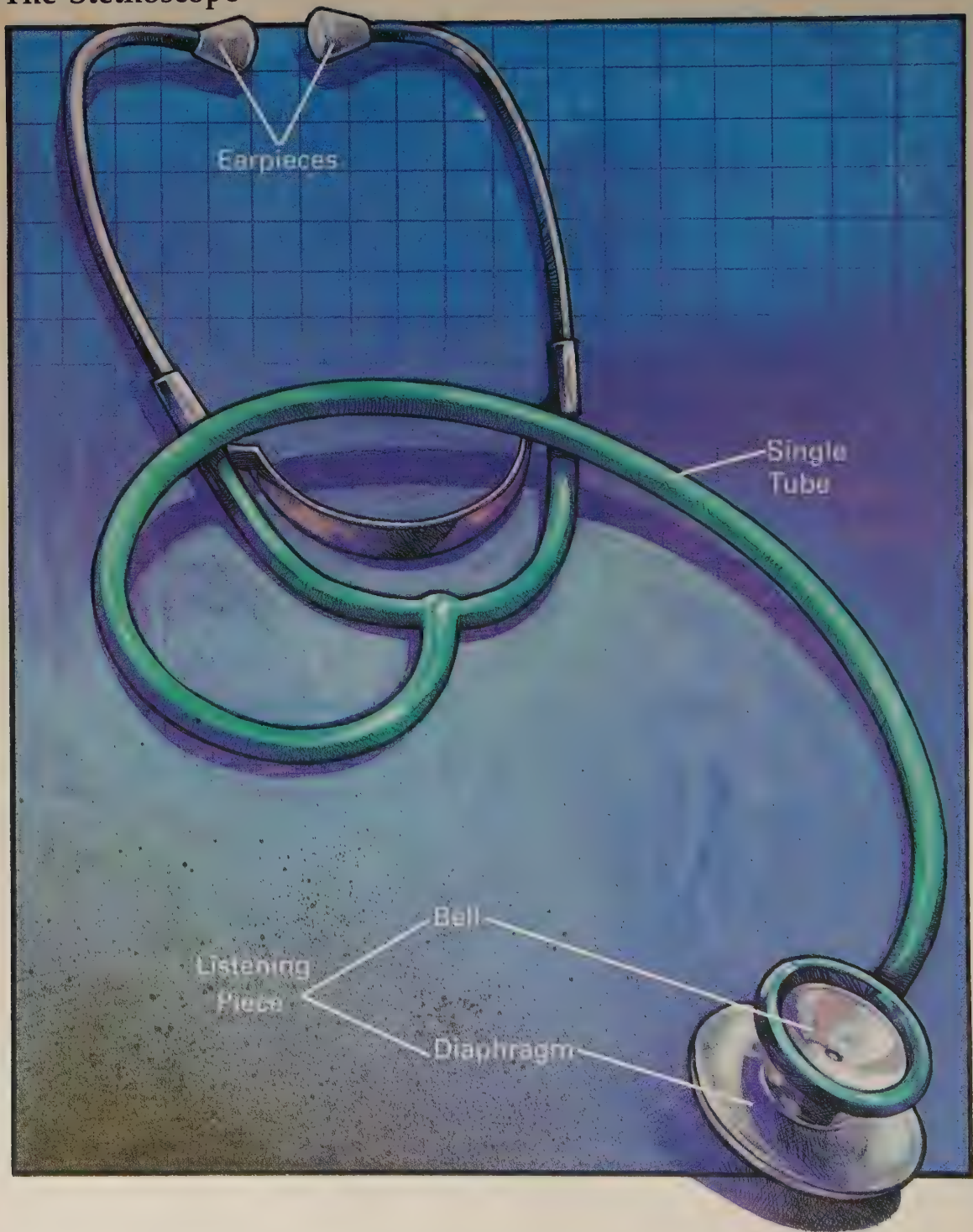


of *that* before, he wondered. It was so simple. Here, after the long and restless night, was the answer to his problem.

Dr. Laënnec hurried to the hospital. He went right away to his office. There he took a sheet of stiff paper from his desk. He rolled the paper into a tube and put a band around it. Then in an instant, he was standing beside his patient's bed. He placed one end of the tube against her chest. He placed his ear against the other end. He listened for just a few seconds. Then a smile broke over his narrow face.



## The Stethoscope



He could hear her unhealthy heart beating. He could hear it better than he had ever heard any patient's heart in all his life.

Able to hear the heartbeat, Dr. Laënnec could tell what was wrong with his patient. And he knew that he had found an invaluable tool for medicine.

Laënnec's new tool made him one of the leading doctors in his time for diseases of the chest. All during his life, Laënnec worked on making the stethoscope better and better. His final model was made of wood and looked different than those used today. However, it worked in the same way stethoscopes do now.

Today's stethoscopes have two earpieces. Each one is joined to a tube. The tubes, in turn, join Y-shaped prongs at the end of a single tube. This tube is joined to the listening piece, made of rubber and metal. The listening piece has two parts—the *diaphragm* and the *bell*. A doctor uses the diaphragm to listen to low-pitched sounds. The bell is used to hear high-pitched sounds.

René Laënnec died when he was only forty-five years old. By the time of his death, his stethoscope was being used by doctors throughout the world. Today, when people picture a doctor, they see a person in a white lab coat—wearing a stethoscope.



## Checking Comprehension and Skills

1. What tool can “hear” disease? (337)
2. How are the sounds of a healthy heart different from the sounds of a heart that has a disorder? (338)
- 3. Look at the diagram on page 339 to help you answer these questions.
  - a. What causes the *lubb* sound?
  - b. What causes the *dub* sound?
  - c. What happens after more blood flows into the upper rooms?
4. What did Dr. Laënnec want to do? (341)
5. How did a children’s game help Dr. Laënnec solve his problem? (342)
6. What kind of person was Dr. Laënnec?
- 7. Look at the diagram on page 344. What two parts make up the listening piece of a stethoscope?

Identify the root word, prefix, suffix, or ending in each underlined word. Then tell what the underlined word means.

- 8. A doctor can tell if a heart is unhealthy by the sounds that it makes.
- 9. The stethoscope is an invaluable tool for medicine.

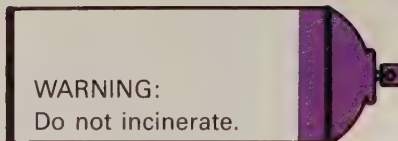
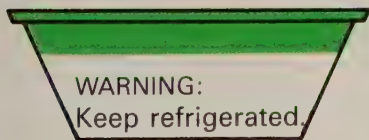
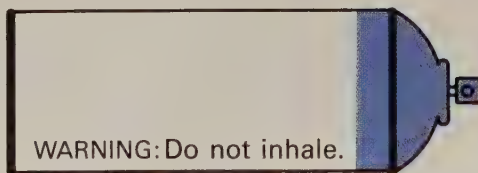
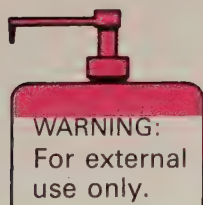
- Graphic Aids: Diagrams
  - Structure: Prefixes, suffixes, and endings

# Reading Warning Signs on Products

Many things we buy can be harmful to our bodies if we do not use them correctly. So companies print signs on their cans and bottles that warn us of dangers. Look for such warning signs when you use products.

Some common warnings are shown below. See if you can match them with their meanings.

Some of the words may be hard to read. To find their meanings, use the dictionary.



## Meanings:

Do not breathe it in.

Do not eat or drink it.

Do not use in a closed room.

Don't store it in the cupboard. Keep it cool.

Do not burn it.

Keep this in a place where a child can not get it.

## Think Before You Read

Look at the sign on this bottle. You have probably seen this sign before. What does it mean? Knowing what you know about the meaning of the sign, would you drink what is in the bottle?



As you can see, it can often be important to use what you already know. Before you read a story or article, take stock of what you already know about the topic. You could ask yourself questions like these:

- What are some facts and ideas I already know about this topic?
- Which of these things seem most important for understanding what I am going to read?

You might jot down some of the things you thought about before you read. After you finish reading, see if what you know has changed. Have you learned more from what you have read?

Make reading easy on yourself—think before you read!



## Section Nine

# Solving Mysteries



Who solved an ancient Egyptian mystery? 350–361

What's that noise? 362–376

Who found secrets hidden underground? 377–388







# Ancient Egypt

A blazing sun beats down upon the land. Swirling sands are blown by desert winds. Beside the Nile River farmers plant their crops and date trees grow. The great pyramids stand in honor of the kings of Egypt who lived and died long, long ago.

What were these kings like? What was inside the pyramids? The answers to these questions were unknown for thousands of years. Then, in the early 1900s, the questions were answered by archaeologist Howard Carter. What did he find?

Come, enter the world of ancient Egypt and discover the answers to these questions for yourself.

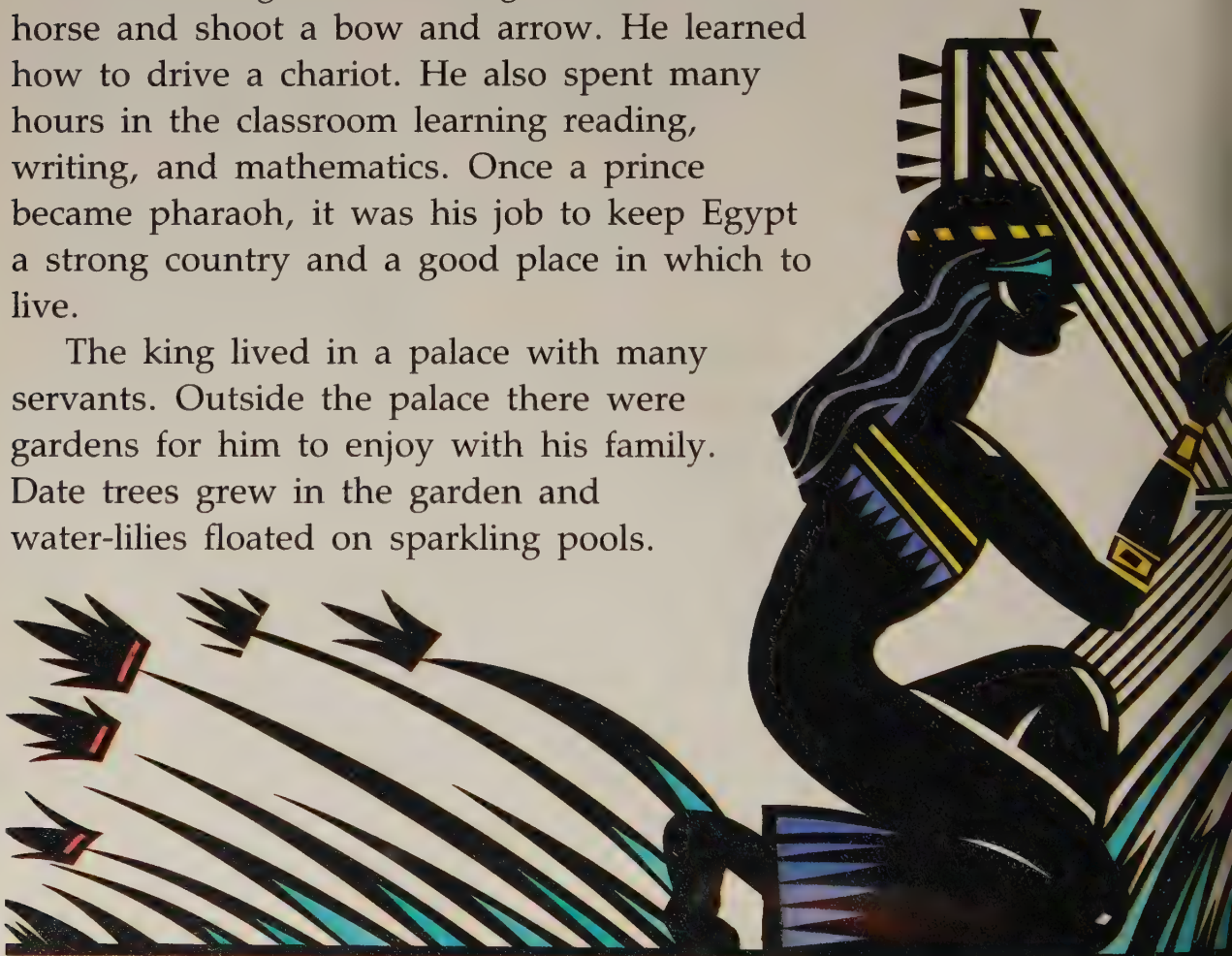


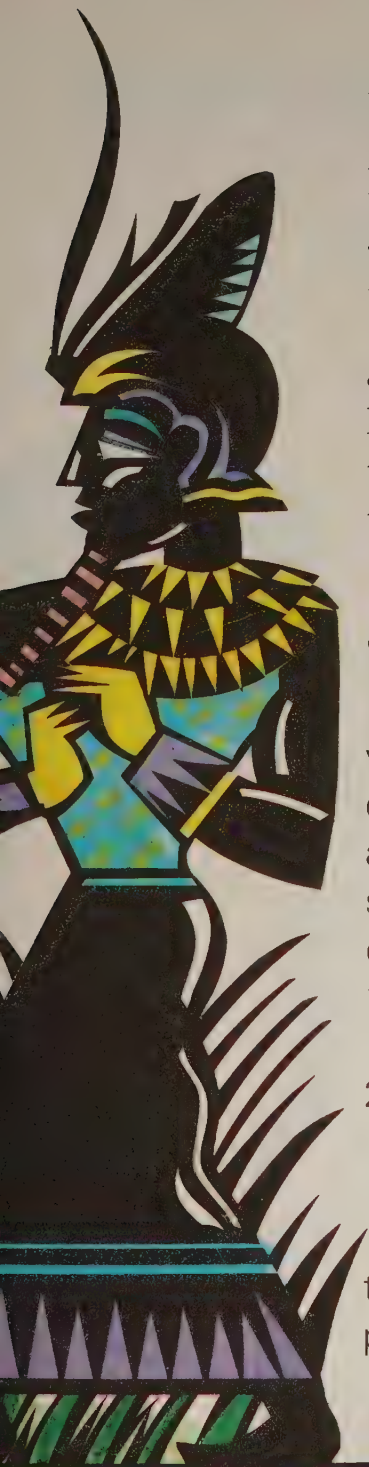
# THE LIFE OF A PHARAOH

The kings of ancient Egypt were called pharaohs. The pharaohs' lives were full of comfort, but they worked hard to rule their people well.

A young prince had much to learn before he became king. He was taught how to ride a horse and shoot a bow and arrow. He learned how to drive a chariot. He also spent many hours in the classroom learning reading, writing, and mathematics. Once a prince became pharaoh, it was his job to keep Egypt a strong country and a good place in which to live.

The king lived in a palace with many servants. Outside the palace there were gardens for him to enjoy with his family. Date trees grew in the garden and water-lilies floated on sparkling pools.





The clothes of a king of Egypt were simple and fine. He wore a robe of white linen, and a crown of gold. Along with the crown, the king wore the most beautiful jewelry, made of gold and semiprecious stones. A wig and false beard were worn for important events.

The royal family dined on fruit, vegetables, and meat. Dates, grapes, carrots, beans, lettuce, beef, duck, and geese were among their favorite foods. Coconuts were a special treat, even for a king.

### ***Sharpen Your Skills***

An author gives you facts and details, but you must often add your common sense and draw conclusions on your own. As you read, ask yourself questions about what the article says. For this article you might ask these questions.

1. Were the pharaohs rich or poor? What facts lead you to draw your conclusion?
2. Was the education of a young prince important? Why?

Use the facts and details in the next articles to draw conclusions about the mysterious burial places of the pharaohs of ancient Egypt.

# THE TOMBS OF THE PHARAOHS

---

When the pharaohs of Egypt died, much of their wealth was buried with them. Egyptians believed that their kings could take treasures with them to a world they would go to after death. The people of Egypt wanted to be sure that their kings would have everything they needed to be happy in the next world. Beautiful gold and silver figures, fine cloth, furniture, and even food and games were placed in their tombs.

For many years the kings were buried in pyramids. These were huge, triangular-shaped structures made out of stone. It took thousands of workers many years to build them. Each had hidden passageways and secret rooms. The kings were buried and their treasures were stored inside.

However, as years passed, robbers always found the tombs of the kings. The secret rooms were discovered and the treasures were stolen.





Later, pharaohs were buried in a hot, dry, lonely valley where no living thing grew. Sand, rocks, and cliffs were all about. Great deserts stretched past the valley. This lonely spot was called the Valley of the Kings. The pharaohs' tombs were cut out of rock and hidden beneath the ground. For hundreds of years few robbers found these secret burial places. But as time went by, more and more of the treasures in the Valley of the Kings were discovered. Finally it was feared that all of the graves had been robbed.

As time passed, robbers were not the only visitors in the Valley of the Kings. Archaeologists came to the valley looking for the hidden tombs of the kings of Egypt. Their reason for searching was very different from that of the robbers. Archaeologists are scientists who study the way of life of people who lived long ago. They dig through the remains of ancient cities and look for tools or other things that might tell them how people lived their lives. Archaeologists came to the Valley of the Kings hoping to find a tomb which the robbers had missed and unlock its golden secrets.

# SEARCHING FOR THE

## BOY-KING



For many years archaeologists searched the Valley of the Kings looking for a tomb that had not been robbed. One was not found until 1922. Then a great discovery was made.

An English archaeologist named Howard Carter was looking for the tomb of King Tutankhamen.<sup>1</sup> King Tut, as he was called, had ruled Egypt over 3000 years before. He had become king when he was just eight years old. He died when he was eighteen. Carter felt sure King Tut's tomb was hidden somewhere in the Valley of the Kings.

---

1. Tutankhamen (tü'tängk ä' mən)

Searching the Valley of the Kings was costly. Much equipment was needed and many helpers had to be hired. Carter's friend, Lord Carnarvon,<sup>1</sup> agreed to pay the cost of Carter's search. By 1922 fifteen years had gone by and nothing had been found. Lord Carnarvon became discouraged. But Carter told him about a small area in the valley which he had not yet explored. Carnarvon agreed that this last part should be searched before they gave up.

In October, 1922, Carter began what he thought would be his last year of digging in the Valley of the Kings. On the morning of November 4, a worker found a stone step cut out of rock. All morning Carter's helpers worked to clear out one step after another. The steps led down to a door. Carter was very excited. The door was sealed with the sign of a pharaoh, and the seal was unbroken.

Carter had made a wonderful discovery. But he did not break the seal and open the door. Instead he filled in the stairway again and stationed men to guard it. Then he sent a telegram to Lord Carnarvon who was in England. Carter had waited many years for this moment. But he was determined to wait a while longer until his friend could join him.

---

1. Carnarvon (kär när'vən)



After a journey of two weeks, Lord Carnarvon arrived. Finally all was ready. The stairway was once more cleared out and the door was removed. Behind it was a long, dark passageway. Once this was cleared a second door was found. With trembling fingers Howard Carter made a small opening in the door. He held a candle inside and peered in. At first he could see nothing. Then, as his eyes got used to the dim light, things began to take shape. Strange animals, statues, and the glitter of gold took Carter's breath away.

"Can you see anything?" asked Carnarvon.

"Yes," whispered Carter. "Wonderful things!"

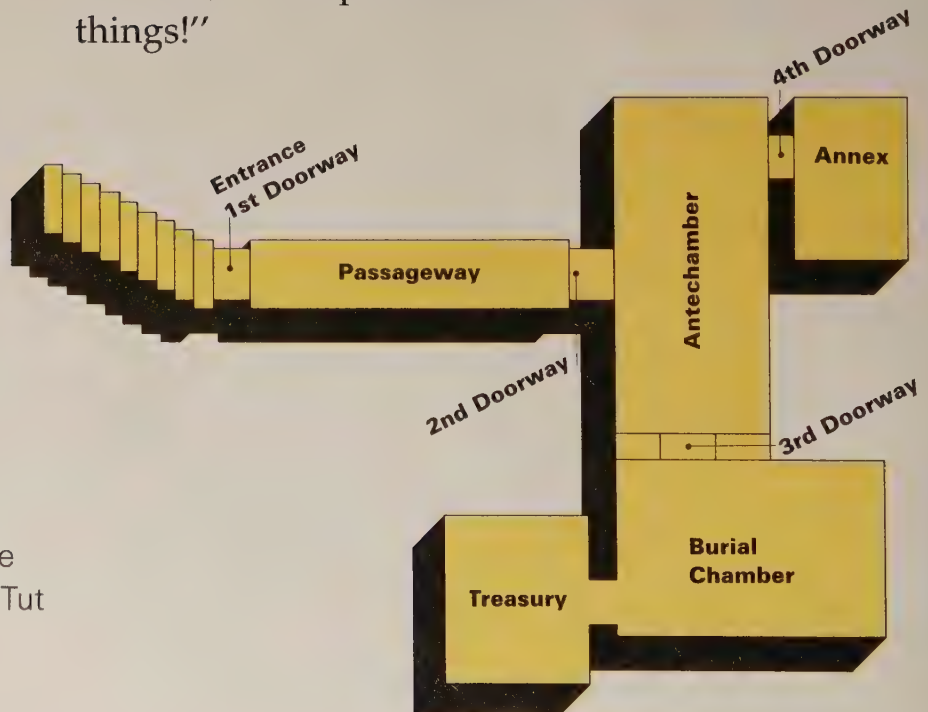
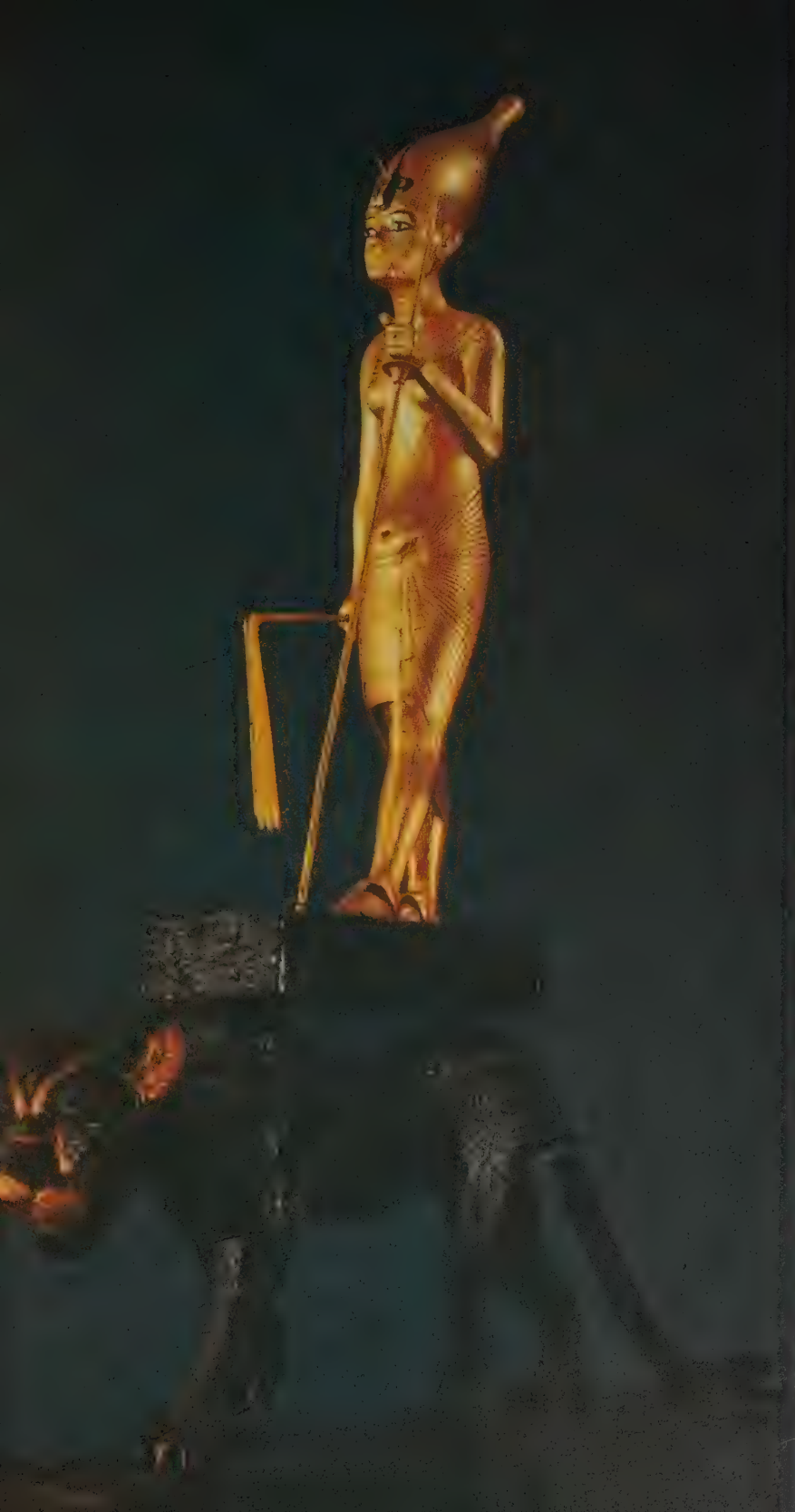


Diagram of the  
tomb of King Tut



A jeweled pendant from the tomb of King Tut.

Treasures from King Tut's tomb include this statue of young Tut on a black leopard.

(next page)–The gold mask of King Tut





## ***Checking Comprehension and Skills***

1. Why were the pharaohs of Egypt buried with much of their wealth? (354)
2. Why did the Egyptians stop burying their kings in pyramids? (354–355)
- 3. Was the Valley of the Kings a safer burial place? Why or why not? (355)
4. What was Howard Carter looking for in the Valley of the Kings? (356)
- 5. Was King Tut's tomb well-hidden? Why do you think as you do? (357–358)
- 6. Carter waited for Carnarvon before entering the tomb. What does this tell you about Carter?
7. What did Carter see when he looked inside the tomb? (358–360)
- 8. Use context and consonants to figure out the incomplete word in this sentence.  
Archaeologists are sc\_\_nt\_\_\_\_\_ who study the ways of life of ancient people.  
persons      scenery      scientists
- 9. Tell what the root word and ending are for the underlined word below.  
Howard Carter made a wonderful discovery.

### • Drawing Conclusions

- Context and Consonants; Structure: Root words and endings without spelling changes



# Where Can Mysteries Be Found?

Have you ever been awakened in the middle of the night by a strange noise? Did you shrug your shoulders, roll over, and fall back to sleep? Or did you lie awake and wonder? . . .

Not all mysteries happened long ago and far away. Every day people just like you find something mysterious where they least expect it. It might be a strange noise, a missing object, or an unfamiliar face. All it takes to uncover a mystery is a little curiosity and sometimes a little courage. Who knows? One day soon a mystery may take you by surprise.





## Making Predictions

Judy predicts the weather on the news. She tells whether she thinks it will be warm or cold, or cloudy or sunny. She bases her predictions on what has happened in the past, on the weather nearby, and on her weather instruments.

### ***Sharpen Your Skills***

When you read, you can be like Judy. You can try to predict what will happen next. Base your predictions on what has already taken place in a story. Then, as you read, check to see if your predictions were right or wrong.

As you read the following story, think about who the thief might be.

### **The Case of the Missing Newspapers**

Amy was puzzled. Every morning she got up before dawn to deliver *The Daily Herald*. Rain or shine, she always delivered the newspapers. Lately, though, people were complaining that they weren't getting their papers—even though Amy knew she had delivered them.

“It must be that Jimmy Jensen,” Amy said to her sister Sarah. “He wants my paper route, and I think he’s taking my papers to make me look bad.”

“Maybe,” said Sarah. “But maybe there’s another thief around. Remember last Sunday when we were going to cook outside? Mom put out the meat and went inside, and when she came out, the meat was gone.”

“In any case,” Amy said, “we have to find the thief. I just can’t lose my route.”

1. Do you think Jimmy Jensen took the newspapers? Why or why not? Continue reading to find out.

The next day Amy saw Jimmy at school. Jimmy was on crutches and his leg was in a cast—he had broken his leg the week before. He couldn’t have taken the newspapers.

After school Amy and Sarah searched the neighborhood for clues. They found nothing until, on their way home, Sarah found a newly dug hole. Sticking out of the hole, just a little bit, was the edge of a newspaper. Amy and Sarah dug it up quickly. It was that morning’s *Daily Herald*.

The next morning, Sarah got up early to follow Amy on her route. She hid and watched as Amy delivered the papers.

2. Who do you think the thief is and why? Read the rest of the story to check your prediction.

“Stop, thief! Drop that paper!” Sarah yelled.

The newspaper thief was a small black and white dog. If dogs can smile, this one did. In fact, he almost laughed when Sarah called to him. By the time Amy came back, Sarah was petting the thief.

“This thief doesn’t have a collar, Amy. I think he’s a stray,” Sarah said excitedly. “Do you think we could keep him?”

“If Mom lets us, that would be great. He could help me deliver my papers, not *take* them.”


“Let’s name him Harold, after Uncle Harold. He’d like that,” Sarah said, hugging the dog.

“I’ve got a better idea,” Amy said. “Let’s spell it **H-e-r-a-l-d** for the newspaper that brought us together.”

As you read the next story, try to predict what will happen when Nell and Maria hear strange noises in the night.







# A Night in the Old House

by Marjorie Vetter

It was the month after my twelfth birthday when Maria came for the weekend—and stayed for a year. She was fourteen years old, and had come from Havana, Cuba, to live with her aunt in New York.

Her aunt was a selfish, heartless woman. She was about to ship the girl off to friends. It was then that Maria telephoned my mother. My mother knew her family well. She invited Maria to spend the weekend with us at our home on Long Island in New York.

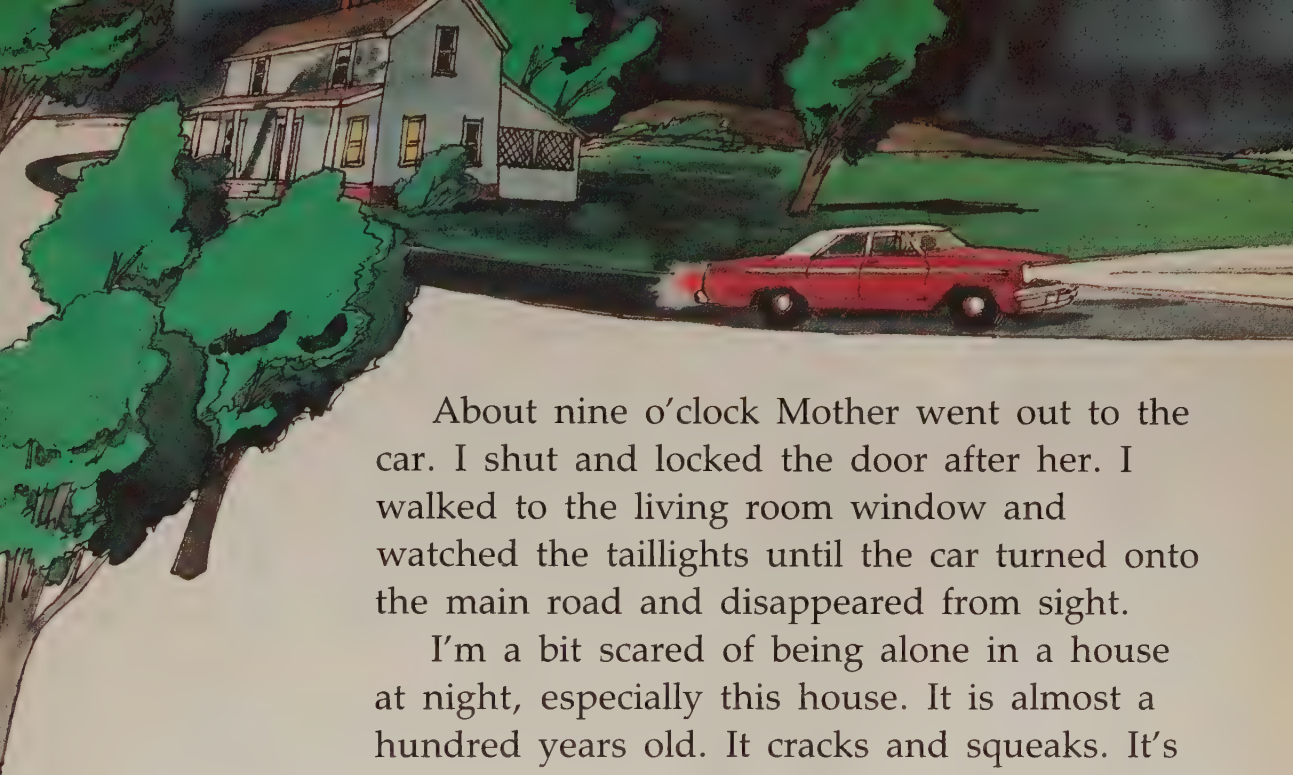
From that first weekend on, my parents, my mother mostly, seemed to live only to make Maria comfortable and happy. From morning till night all I heard was poor Maria. All alone in an unfamiliar country. We must do all we can to make her happy. It seemed to me that my parents were constantly concerned with Maria. I began to feel that they no longer loved me, their own daughter.

We spend part of each summer at our summer place on Lake Champlain in upstate New York. My father worked in New York City and commuted to the lake on weekends. We came up to the lake early that year. My father had to take a business trip. He drove us to our summer place before he left. My father sometimes travels during the year. His business is printing. Books—rare books—are his hobby. He displays them, both at home and at the lake, in bookcases with glass doors to protect them.

When he returned from his trip, he was very proud. He showed us his latest treasure. It was an early edition of *Huckleberry Finn*, signed by Mark Twain himself, and worth thousands of dollars. He showed it to everyone who came to the house. He also showed it to people up and down the lakeshore. Then he put the book in his bookcase in the house.

That Monday, after my father went back to New York, Maria came down with a severe cold. My mother put her to bed in the guest room, just off the living room. She stayed in bed the entire week.

When my father returned from New York on Friday, my mother had to drive to Burlington, about thirty miles away, to pick him up at the airport.



About nine o'clock Mother went out to the car. I shut and locked the door after her. I walked to the living room window and watched the taillights until the car turned onto the main road and disappeared from sight.

I'm a bit scared of being alone in a house at night, especially this house. It is almost a hundred years old. It cracks and squeaks. It's as if someone were creeping up and down the stairway. There are giant trees all around that make a mournful noise in the wind. They cast long, black shadows across the porch and windows.

I heard a rumble of thunder. I closed the curtains at the picture window. All I needed to finish the evening was one of Lake Champlain's raging storms. These often left us without light for hours.

The wind was increasing. I peered through the curtains. Suddenly a light flashed outside at the top of the stairs leading up from the lake. Then it disappeared. My heart thumped in my chest. Was there someone out there?



As I watched, the light came on again. It bobbed across the front yard and approached the left side of the house. I tiptoed anxiously to the dark kitchen. Sure enough, I caught a glimpse of the light again. Someone was circling the house.

I knew the doors were locked, but windows were unlatched in the kitchen, in Maria's room, and in the upstairs bedrooms.

I moved cautiously across the kitchen floor. I held my breath as I very slowly eased down and locked the windows.

I needn't bother about the bedroom windows upstairs, I told myself. Surely no one would get up there to sneak into the house.

Slowly, quietly, I crept back across the living room and went into Maria's room. She stirred as I entered. As I began to shut the window she awoke and asked, "What's the matter, Nell? What are you doing?"

"Don't make a sound," I whispered anxiously. "There's someone sneaking around the house."

She sat up laughing and said, "Don't be silly."

Just then we heard the shuffle of footsteps across the front porch followed by the noise of someone testing the lock.

Maria wasn't laughing now. Her eyes widened as we heard the footsteps shuffling back down the porch steps. Maria leapt out of bed and peeked behind the curtain. "He's going around back," she whispered tensely. "I can see his flashlight moving."

We could hear footsteps crossing the back porch. There was the rattle of the door handle. Then we heard the scraping of a chair being dragged across the back porch. A little later, we heard someone walking across the tin porch roof. There was a moment of silence, and then we heard the sounds of footsteps moving across the floor above our heads.

"Maria," I whispered urgently, "he's in the house! What will we do?"

"Sit tight," whispered Maria. "Let's find out what he's after."

We heard footsteps coming down the wooden stairs from the second floor. Then somebody was in our living room. Who was it and what was he after? I had to see!



I crept over to the door of the living room. Lamplight shone on a tall young man crouching in front of my father's bookcase. In a flash I realized he was after *Huckleberry Finn*, my father's prize book.

"Stop!" I shouted, running toward him. "That's my father's book. Put it back."

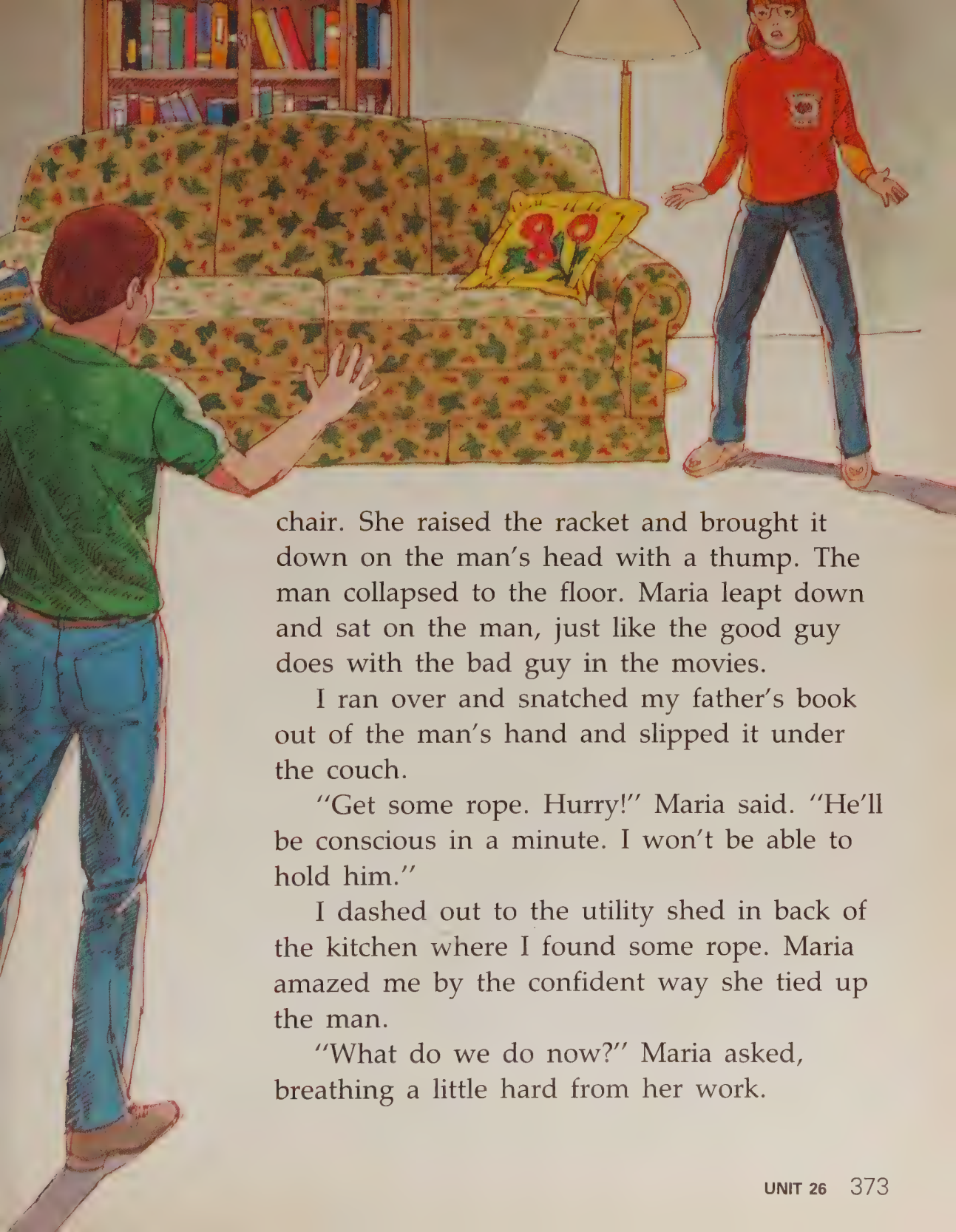
He spun around to face me in astonishment. "Get out of my way if you don't want to get hurt," he commanded. "I'm leaving by that back door and this book's going with me."

He backed away from me slowly, still clutching the book tightly. He was making for the back door, when lightning crackled again. A crash of thunder shook the house, and the lights went out. The intruder crashed against the couch. At that moment the lights came on once more. Out of the corner of my eye I could see Maria holding a tennis racket. She was tiptoeing up behind the man.

"You'll never get away with this," I yelled at the robber to get his attention. Then I saw Maria quietly jump onto a big, cushioned







chair. She raised the racket and brought it down on the man's head with a thump. The man collapsed to the floor. Maria leapt down and sat on the man, just like the good guy does with the bad guy in the movies.

I ran over and snatched my father's book out of the man's hand and slipped it under the couch.

"Get some rope. Hurry!" Maria said. "He'll be conscious in a minute. I won't be able to hold him."

I dashed out to the utility shed in back of the kitchen where I found some rope. Maria amazed me by the confident way she tied up the man.

"What do we do now?" Maria asked, breathing a little hard from her work.

"I'll call the police," I told her. I started toward the phone.

Just then we heard the sound of the car in the driveway. There was quite an uproar when Mom and Dad came in and found us standing over a strange, tied-up man!

Father took over then. He phoned to town for the police. They came and took the intruder into custody.

We found out that the robber was a guest at the home of one of our neighbors where Dad had shown his treasure. The robber knew that we were going to meet my father's plane. He thought he could get away with the valuable Mark Twain book while we were gone.

My parents praised Maria and me for being courageous and thinking fast. I began to be sorry for the way I had treated Maria. She had been a stranger. She was alone in a strange land. From the beginning she had acted bravely. I had been the selfish one.

I walked over to her and held out my hand. "Maria," I said, "I'm sorry for the way I've been treating you. I . . . I think you're great!"

Maria was not only brave, she was also forgiving. We have been friends from that night on.

## ***Checking Comprehension and Skills***

1. How did Nell feel about Maria coming to live with her family? (367)
2. Was Nell's vacation home a good setting for a mystery? Why do you think as you do?
- 3. What did the intruder try to steal? (372) Was your prediction correct? Why or why not?
4. Do you think Nell was wise to confront the intruder? Why or why not?
- 5. Who was the intruder? (374) Was your prediction correct? Why or why not?
6. How did Nell's attitude toward Maria change? (374)
7. What is your most valuable possession? Why is it valuable?

Figure out the meaning of each underlined word below. Then tell what way (or ways) best helped you: context and consonants, root words and affixes, syllabication.

- 8. The lightning flashed and crackled.
- 9. I knew now that Maria had acted bravely from the beginning.

- Predicting outcomes
- Word Study Strategies



# The Case of the Missing Sky-High Sandwich

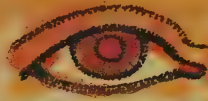
Al, the neighborhood super sleuth, solved ten mysteries today. That made him hungry! So Al ordered a Sky-High Sandwich at the Home Cooking Cafe. But Al never got his sandwich. The waiter gave it to someone else. Use these clues to help you find Al's sandwich.

1. Al ordered a chicken and roast-beef sandwich.
2. Al asked for cheese, lettuce, and three slices of tomato on his sandwich.
3. Mustard makes Al break out in red spots.
4. Al asked for two slices of onion and lots of pickles on his sandwich.
5. Al wants his sandwich on a roll with seeds.

Which sandwich is Al's?

Answer: Sandwich number three belongs to Al.





# THE RED-HEADED LEAGUE

by Sir Arthur Conan Doyle  
adaptation by Kathy Andronik

## Cast of Characters

Narrator

Sherlock Holmes, the famous detective

Dr. Watson, Holmes's good friend

Mr. Jabez Wilson, a London shopowner

Mrs. Hudson, the housekeeper

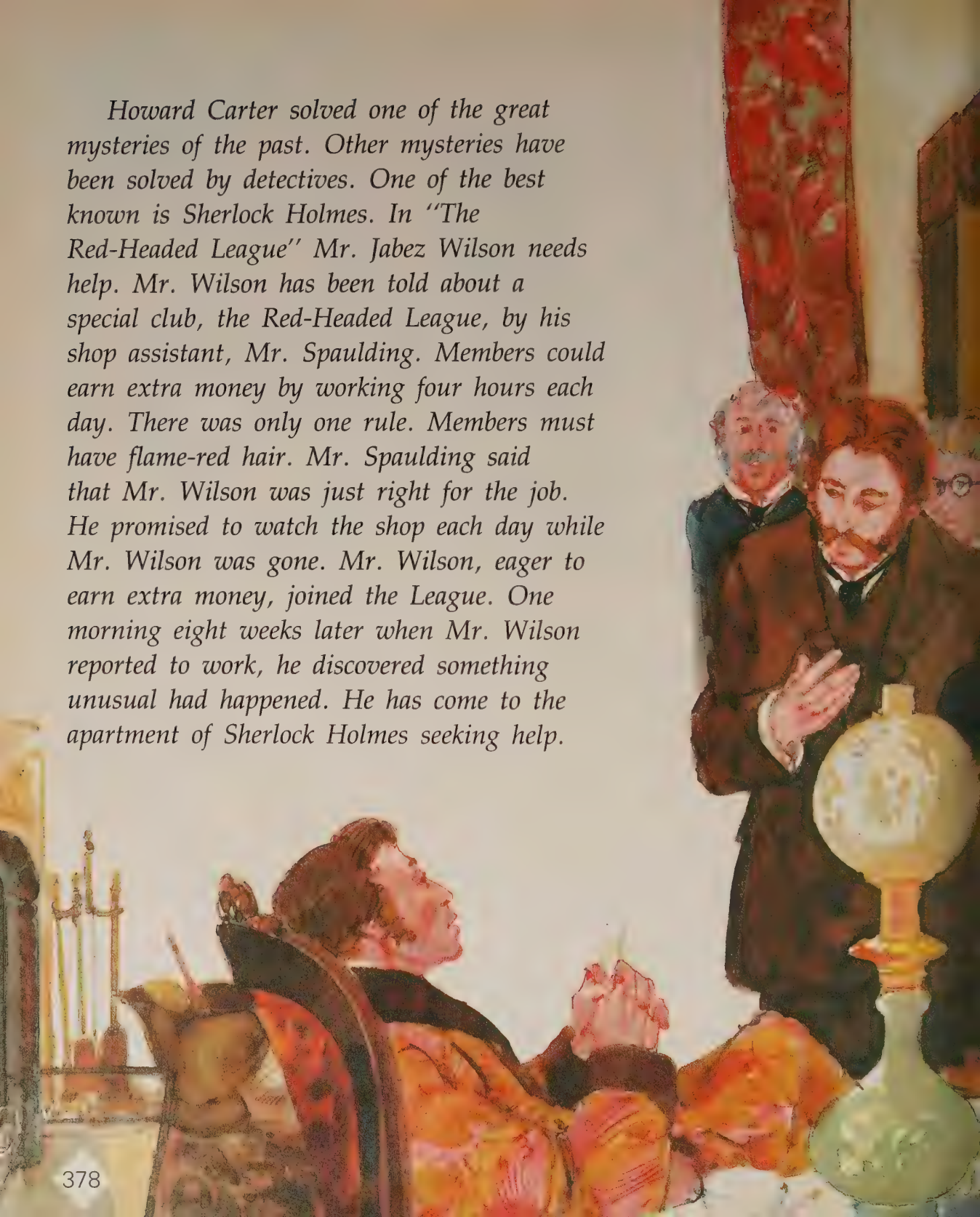
Mr. Spaulding, Wilson's assistant

Mr. Jones, a police detective

Mr. Merryweather, a banker



Howard Carter solved one of the great mysteries of the past. Other mysteries have been solved by detectives. One of the best known is Sherlock Holmes. In "The Red-Headed League" Mr. Jabez Wilson needs help. Mr. Wilson has been told about a special club, the Red-Headed League, by his shop assistant, Mr. Spaulding. Members could earn extra money by working four hours each day. There was only one rule. Members must have flame-red hair. Mr. Spaulding said that Mr. Wilson was just right for the job. He promised to watch the shop each day while Mr. Wilson was gone. Mr. Wilson, eager to earn extra money, joined the League. One morning eight weeks later when Mr. Wilson reported to work, he discovered something unusual had happened. He has come to the apartment of Sherlock Holmes seeking help.





*Scene 1: Sherlock Holmes's Apartment*

**NARRATOR:** Sherlock Holmes, Dr. Watson, and Mrs. Hudson listen as Mr. Wilson tells about his unusual experience.

**WILSON:** This morning I went to work as usual at the office of The Red-Headed League, but the door was locked. This note hung on the door.

**HOLMES** (*reading*): "The Red-Headed League is dissolved. October 9, 1890." What did you do when you saw this note?

**WILSON:** I called at the other offices in the building, but no one seemed to know anything about it.

**HOLMES:** What did you do then?

**WILSON:** I went to my shop and asked Spaulding what I should do, but he could not help me in any way.

**HOLMES:** Your case is a remarkable one, but I shall be happy to look into it. I have one or two questions, Mr. Wilson. How long had Mr. Spaulding been with you when he told you about the League?

**WILSON:** He had been with me about a month.

**HOLMES:** What is he like, this Mr. Spaulding?

**WILSON:** He is small, stout, very quick in his ways. He has a white spot on his forehead.



**HOLMES:** Hmmm! He is still with you?

**WILSON:** Oh, yes, sir. I have only just left him.

**HOLMES:** That will do, Mr. Wilson. I hope that we can soon find out what is going on.

**MRS. HUDSON:** Good day, Mr. Wilson. I'll show you out.

*Scene 2: Coburg Square*

**NARRATOR:** Holmes and Watson go to look around Coburg Square, where Mr. Wilson's shop is located. Holmes stops in front of Wilson's shop and looks it over very carefully. After thumping the pavement with his cane two or three times, he looks at the buildings close by. Finally he goes back to the shop and knocks. Spaulding answers.

**SPAULDING:** Would you like to come in?

**HOLMES:** Thank you. Could you tell me how to go from here to the Strand?

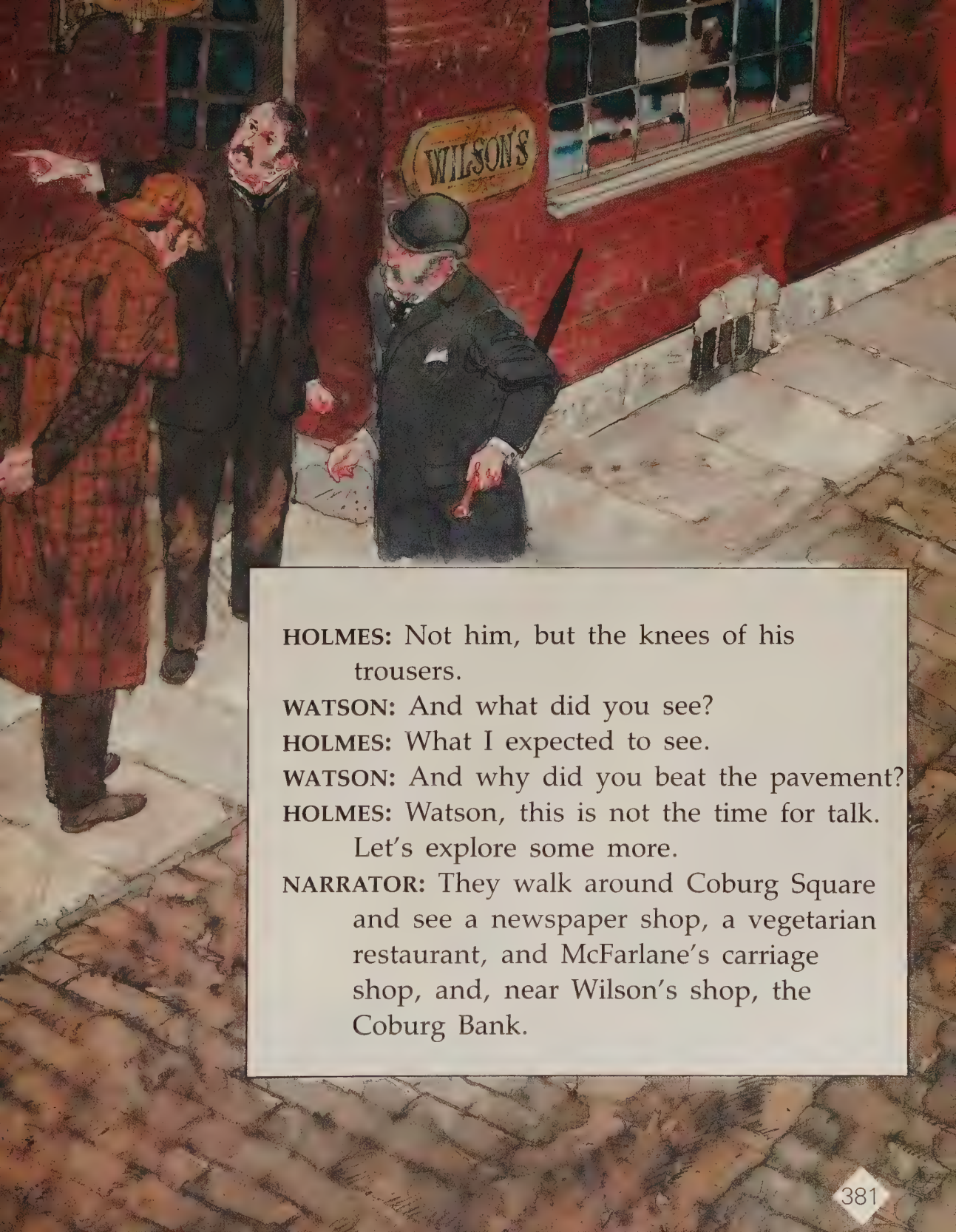
**SPAULDING:** Third street on the right, fourth street on the left.

**HOLMES:** Thank you so much.

**NARRATOR:** Spaulding closes the door. Holmes and Watson begin to walk away.

**WATSON:** You asked directions just to see what he looked like?





**HOLMES:** Not him, but the knees of his trousers.

**WATSON:** And what did you see?

**HOLMES:** What I expected to see.

**WATSON:** And why did you beat the pavement?

**HOLMES:** Watson, this is not the time for talk.

Let's explore some more.

**NARRATOR:** They walk around Coburg Square and see a newspaper shop, a vegetarian restaurant, and McFarlane's carriage shop, and, near Wilson's shop, the Coburg Bank.



HOLMES: This business at Coburg Square is serious, Watson.

WATSON: Why serious, Holmes?

HOLMES: A crime is being planned, but I believe we can stop it. I shall want your help tonight.

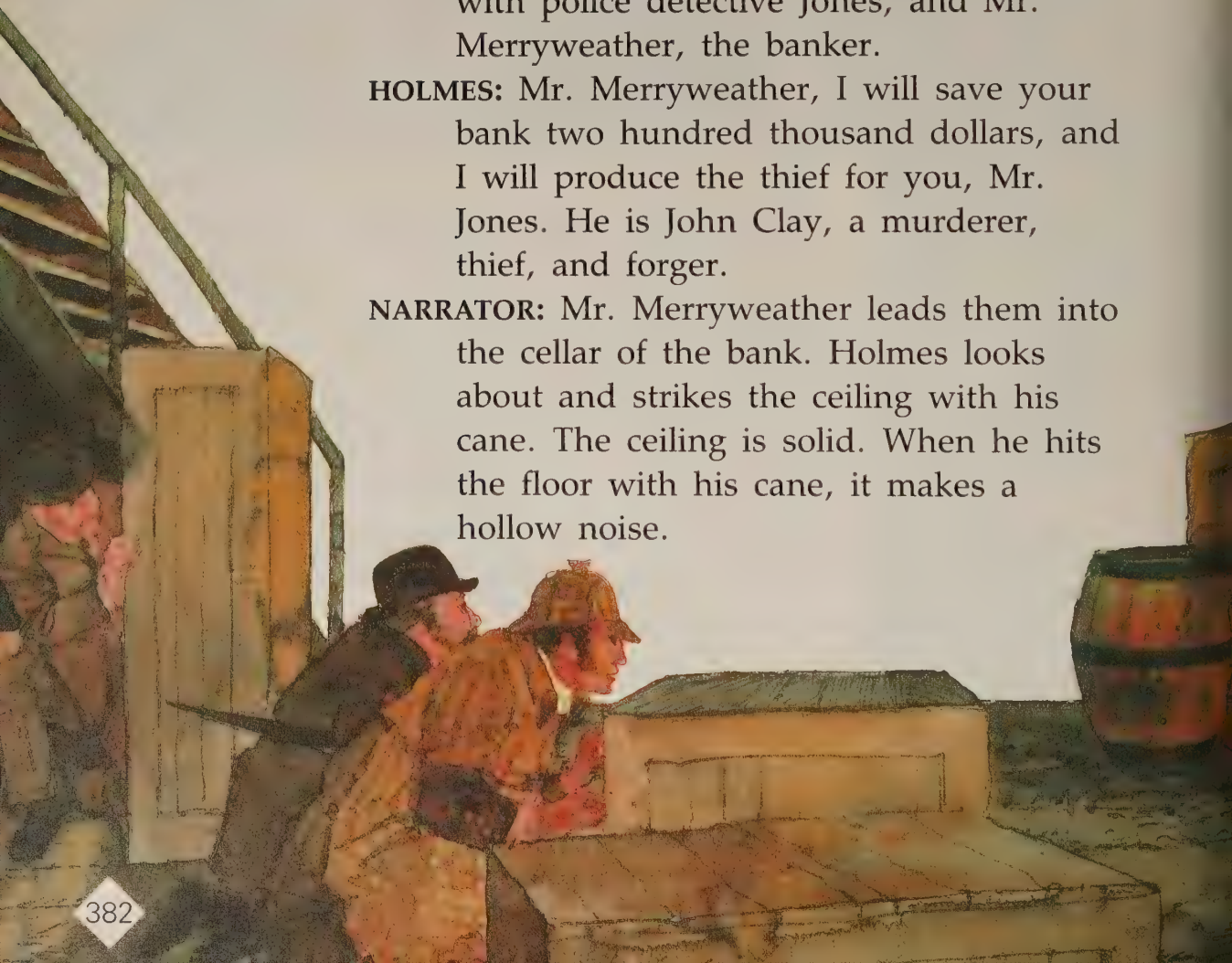
WATSON: I shall be honored to help.

*Scene 3: That night, inside the Coburg Bank*

NARRATOR: Holmes and Watson are talking with police detective Jones, and Mr. Merryweather, the banker.

HOLMES: Mr. Merryweather, I will save your bank two hundred thousand dollars, and I will produce the thief for you, Mr. Jones. He is John Clay, a murderer, thief, and forger.

NARRATOR: Mr. Merryweather leads them into the cellar of the bank. Holmes looks about and strikes the ceiling with his cane. The ceiling is solid. When he hits the floor with his cane, it makes a hollow noise.



**MERRYWEATHER:** I suppose they want the gold we borrowed from the Bank of France. We have had warnings that there might be attempts to steal it.

**HOLMES:** Now it is time for us to make our plans. I shall stand behind this crate, and you should hide behind the other crates. When I flash a light on the thieves, close in quickly. They will have but one way out, and that is back to Wilson's shop. I hope you have done what I asked, Jones.

**JONES:** I have an inspector and two officers waiting at the door of Wilson's shop.

**HOLMES:** Then we have stopped all the holes. Now we must be silent and wait.

**NARRATOR:** After an hour, a light suddenly appears in a crack in the floor, and the stones begin to rise. Over the edge of the hole appears the face of Spaulding and his accomplice.

**SPAULDING:** It's all clear. Do you have the chisel and the bags? Great Scott! Jump, Archie, jump!



**NARRATOR:** Holmes springs out of hiding and grabs Spaulding's collar.

**WATSON:** Spaulding!

**JONES:** CLAY!

**HOLMES:** Gentlemen, they are one and the same! Notice the white spot on his forehead. It's no use struggling, John Clay.

**WATSON:** The other one is going back down the hole!

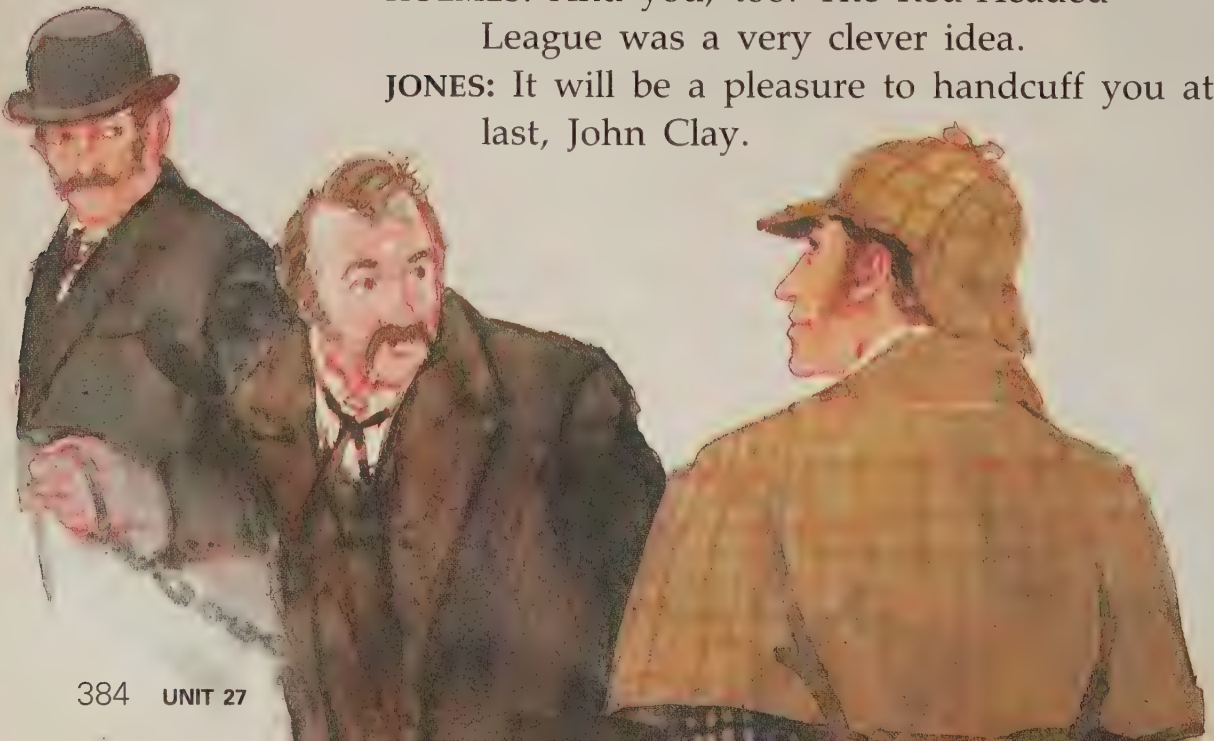
**SPAULDING:** You won't get us both.

**JONES:** There are men waiting for him at the door.

**SPAULDING:** Oh, indeed! You seem to have done everything very well. I must compliment you.

**HOLMES:** And you, too. The Red-Headed League was a very clever idea.

**JONES:** It will be a pleasure to handcuff you at last, John Clay.





*Scene 4: Sherlock Holmes's Apartment*

**NARRATOR:** Holmes and Watson relax in Holmes's apartment. Mrs. Hudson joins in the conversation.

**HOLMES:** You see, Watson, it was plain from the first. This business about the Red-Headed League was just Clay's way of getting Mr. Wilson out of his shop every day. Then Clay (alias Spaulding) could dig a tunnel from the shop to the bank.

**WATSON:** I should have known as much.

**HOLMES:** When we visited Clay at the shop, I hardly looked at his face. His knees were what I wished to see. You must have noticed how stained they were from digging. And when I tapped the sidewalk with my cane, I heard a hollow sound. I walked around the corner and saw that the bank was right next door to our friend's shop. That solved the problem.

**MRS. HUDSON:** You reasoned it out beautifully, Mr. Holmes.

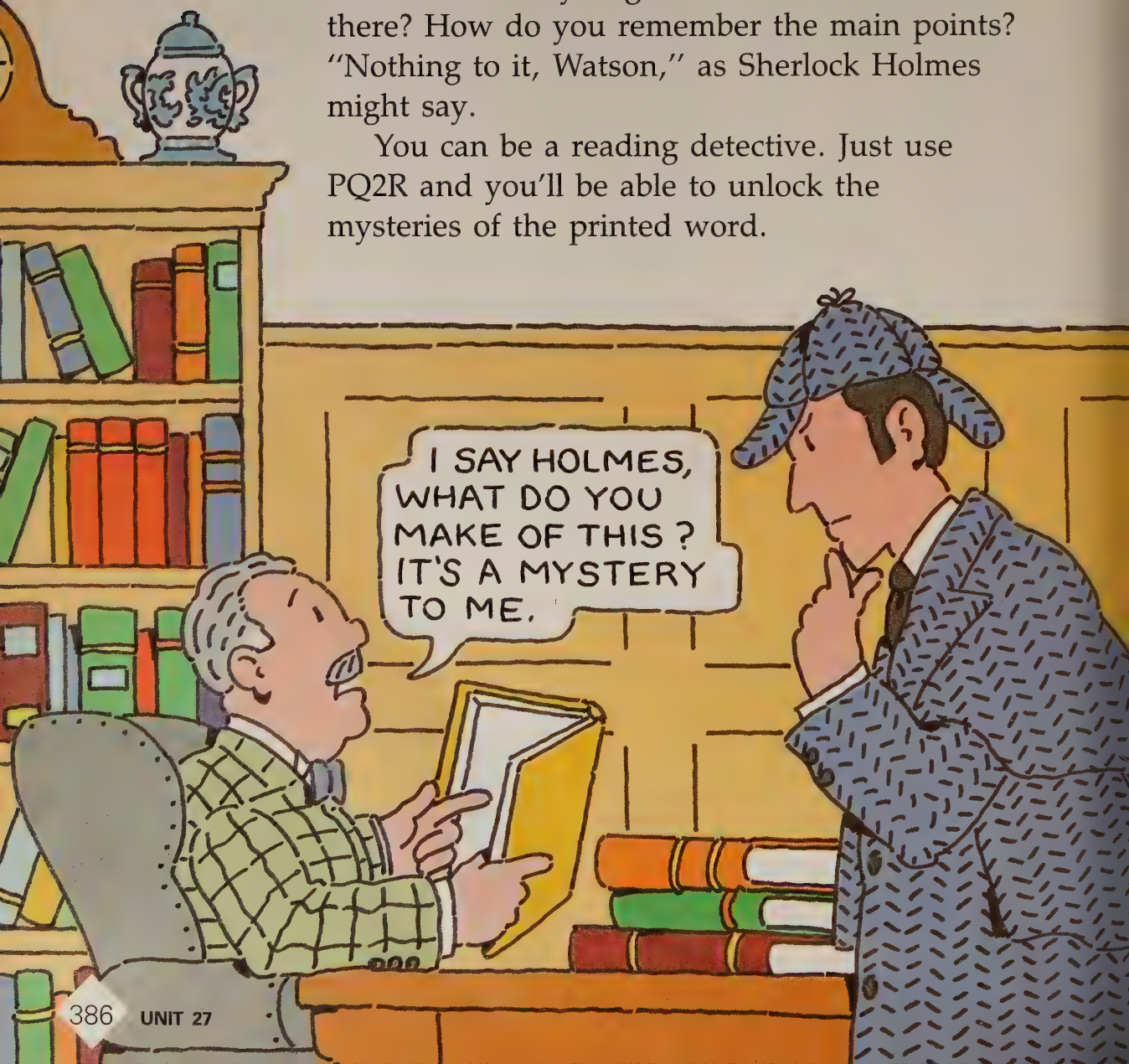
**HOLMES:** It gave my mind a nice problem to think about, Mrs. Hudson, and saved me from boredom. That is all the reward I need.

**Skill  
Bonus**

## Using PQ2R

Sometimes what you read may seem like a mystery. How do you figure out what it's about? How do you get the most from what's there? How do you remember the main points? "Nothing to it, Watson," as Sherlock Holmes might say.

You can be a reading detective. Just use PQ2R and you'll be able to unlock the mysteries of the printed word.



## ***Sharpen Your Skills***

PQ2R is no secret formula. It's a four-step process you can use on anything you read. These are the steps: **Preview, Question, Read, Review**. Let's see how you might use PQ2R on "Strange Creatures of the Deep," pages 426–430.

1. **Preview** Flip through pages 426–430, glancing at the title and pictures. You can see right away that the article is about creatures under the water.
2. **Question** Decide what you want to find out as you read. You might ask yourself, "What are these strange creatures called?" or "How can they live underwater?"
3. **Read** Read the article, keeping your questions in mind. Look for the answers.
4. **Review** Reviewing helps you remember what you've read. There are several ways to do this. First, ask yourself if you now know the answers to the questions you asked before you started to read. Then try to put the main ideas in your own words. You could also talk about the main points with a friend. As you review, you may need to reread parts of the article.

It's no secret: using PQ2R can help you understand what you read.



## Books to Read



**Louis Braille** by Margaret Davidson.  
Hastings House

Today books for blind people are printed in Braille. This book tells you how Louis Braille, who was blind himself, invented an alphabet for the blind—at the age of fifteen.

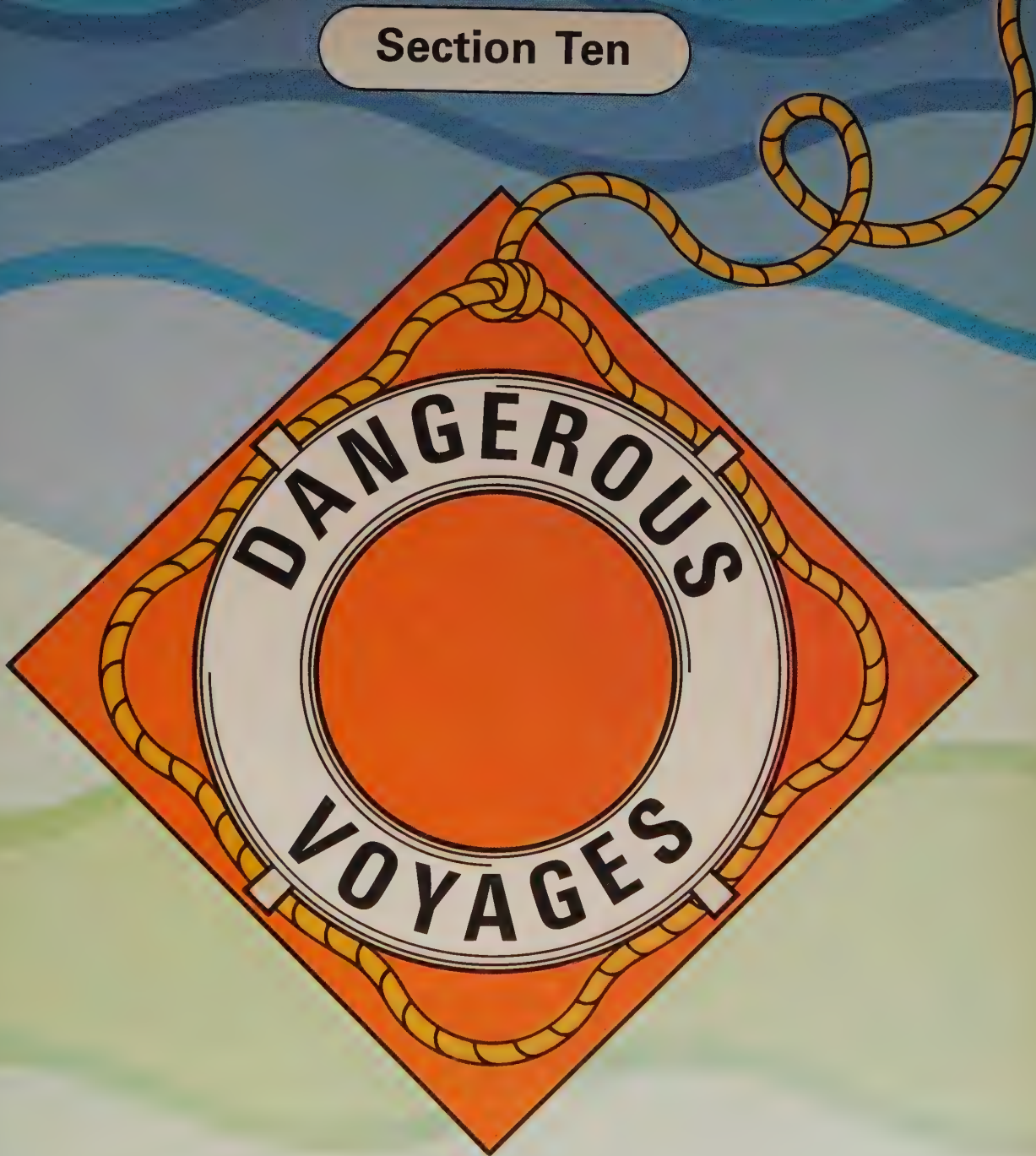
**Alesia** by Eloise Greenfield and Alesia Revis.  
Philomel

Alesia was hit by a car at the age of twelve and could barely move. Read her diary and share her life as she struggles to walk again.

**Einstein Anderson Tells a Comet's Tale**  
by Seymour Simon. Viking

Einstein is a sixth-grade detective who can solve such mysteries as how to get ketchup out of the bottle, how to build a winning race car, and how to know when your teacher is reading a "true story" . . . that isn't true.

## Section Ten



**Clipper Ship Sets Sail 390–403**

**Submarine Trapped Under Ice 404–417**

**New Creatures Found on Ocean Floor 418–434**

# ◆ Getting Started





# *Clipper Ships*

People have traveled the seas in sailing ships for hundreds of years. The sailing ships were slow, and the voyages often took a long time. Then, around 1850, American shipbuilders built some very fast sailing ships. These fast ships were called clipper ships. They were long and narrow, with tall masts and many large sails. The clipper ships could cross the Atlantic in twelve days. Other ships needed twenty to thirty days to make this trip. To people used to thirty days at sea, the clipper seemed to fly before the wind.

Clipper ships sailed to all parts of the world. Their speed was important when they were carrying valuable goods such as tea or silks from China. Speed was also important in getting eager passengers and supplies from New York and other ports on the east coast to the gold fields in California.

Captains of clipper ships were proud of their ships. They often raced each other to see who could make the fastest voyage or set a new record for speed.

## Figuring Out the Plot



If someone asked you to tell the story the picture shows, you could probably do it. You might say, "Some people on a ship were looking for land. The ship got lost in a fog and ran into another ship. Crunch!" That, in a few words, is the plot of the story.

### ***Sharpen Your Skills***

The **plot** is the most important actions or events in a story. A plot is like the short paragraph in a television guide that tells what happens in a show. Most plots are made up of a goal (or goals) and an outcome. When you read, ask yourself these questions about the plot.

- What are the characters' goals? What do they want?
- What happens so the characters get what they want? What problems do they have?
- What is the outcome? Do the characters finally get what they want?

Read the first part of the following story to find out what Abby and John want.

Abby Byrd and her brother John were worried. Their father's new clipper ship, *The Morning Star*, was almost ready to sail. They missed their mother, who had died recently, and they wanted to be with their father.

John said, "Father, may I go with you? I'm eleven and very strong."

"No," said Father. "You must go to school."

Abby said, "Father, I've learned my lessons. I can teach John while we sail."

"No, Abby," Father said patiently. "A voyage on a clipper ship can be dangerous. In an emergency I need to give all my attention to the ship. If you two were there, I'd worry about you. You must stay at home with your Aunt Martha."

Sadly, John and Abby left the ship to walk home. They saw several children running along the wharf. Suddenly a small boy slipped and fell into the water. "Help, help!" he called.



1. What do Abby and John want?
2. Find the part of the story that tells why Abby and John have this goal.

It was probably easy for you to recall this part of the plot. Abby and John want to sail with their father. The third sentence explains why. Continue reading to find out if Abby and John get what they want, and if so, how.

Quickly, Abby grabbed a long pole that was lying nearby. "Hold my feet, John," she said as she stretched her arms out over the edge of the wharf. "Here, grab this pole and hold tight!" Abby yelled to the boy in the water.

The boy grabbed the pole and Abby pulled him safely to the wharf.

When Captain Byrd heard how his children had saved the boy, he said, "You have shown that you can act wisely in an emergency. You have earned your places aboard *The Morning Star*."

3. Did Abby and John get what they wanted?
4. How did this happen?

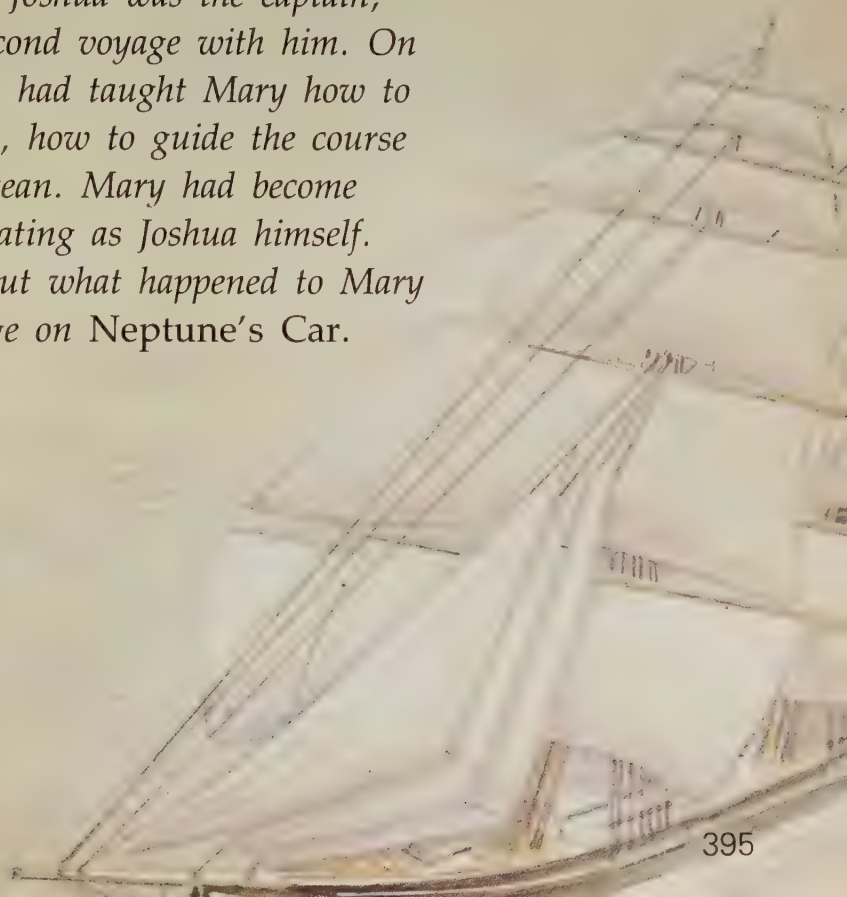
Think about goal and outcome as you follow the plot of "The Strange Voyage of *Neptune's Car*."



# The Strange Voyage of *Neptune's Car*

by Joe Lasker

On July 1, 1856, Joshua Patten and his nineteen-year-old wife Mary set sail from New York on the clipper ship *Neptune's Car*. They were going to San Francisco. Joshua was the captain, and this was Mary's second voyage with him. On their first voyage Joshua had taught Mary how to navigate a ship—that is, how to guide the course of the ship across the ocean. Mary had become almost as good at navigating as Joshua himself. This true story tells about what happened to Mary during her second voyage on *Neptune's Car*.



"We are in a race, Mary," Joshua said as the ship sailed out of the harbor. "Two other clippers left New York at the same time as *Neptune's Car*, all on the same course. It's fifteen thousand miles<sup>1</sup> to San Francisco. I hope we can win."

*Neptune's Car* sailed south before fair winds. Joshua was pleased. Their course would take them around the tip of South America and the dangerous and stormy Cape Horn. Joshua hoped they would go around safely and ahead of the other clippers.

After several weeks the warm weather changed. Cold winds blew and heavy snow fell. Joshua shook his head. "If the weather is so bad here, what is it like further down at Cape Horn?" he said to Mary.

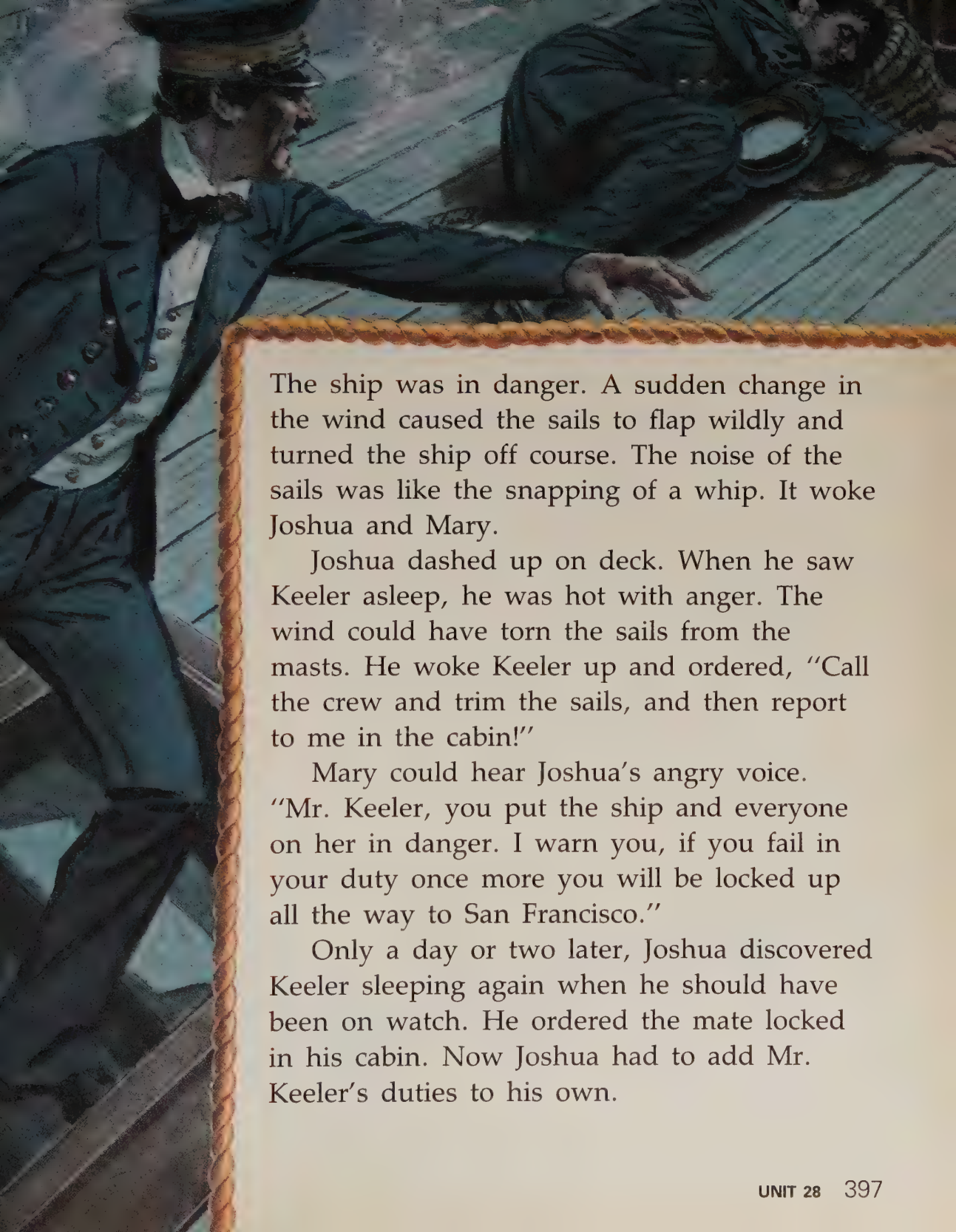
The bad weather made for hard work and mean tempers. Mr. Keeler, the first mate and a cruel man, beat and yelled at the crew even more than usual. Mr. Hare, the second mate, was cheerful and helpful, but he too was worried about what lay ahead.

Mary could see that Mr. Keeler disliked her and Joshua. One night when Mr. Keeler was keeping watch on deck, he fell asleep.

---

1. about 24,000 km





The ship was in danger. A sudden change in the wind caused the sails to flap wildly and turned the ship off course. The noise of the sails was like the snapping of a whip. It woke Joshua and Mary.

Joshua dashed up on deck. When he saw Keeler asleep, he was hot with anger. The wind could have torn the sails from the masts. He woke Keeler up and ordered, "Call the crew and trim the sails, and then report to me in the cabin!"

Mary could hear Joshua's angry voice. "Mr. Keeler, you put the ship and everyone on her in danger. I warn you, if you fail in your duty once more you will be locked up all the way to San Francisco."

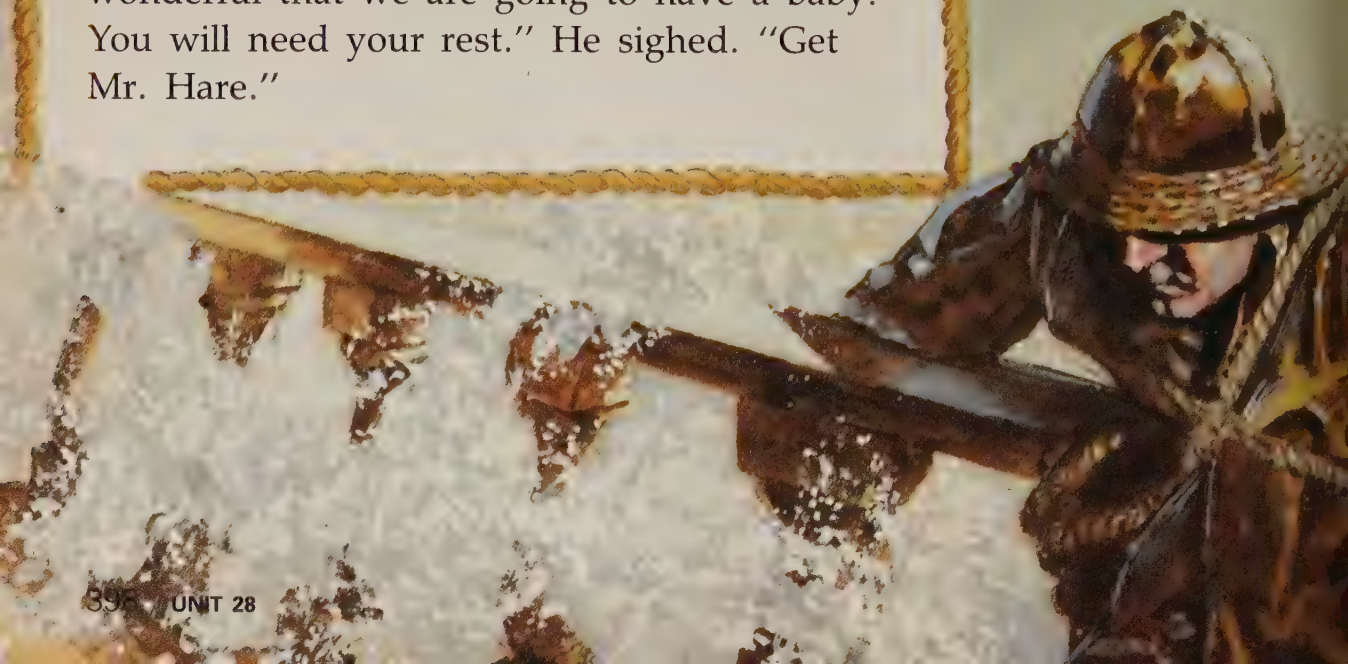
Only a day or two later, Joshua discovered Keeler sleeping again when he should have been on watch. He ordered the mate locked in his cabin. Now Joshua had to add Mr. Keeler's duties to his own.

Ahead lay Cape Horn, with its terrible storms. Howling winds and freezing sleet hit the ship, coating it with ice. Joshua was on deck day and night. He caught what sleep he could, tied to the deck rail to keep from being washed over the side. Mary worried about him because he was always cold and wet. His food was as solid as ice by the time the cook could get it to him.

During a break in the storm, Joshua joined Mary in the cabin. He was coughing and shaking with fever. Mary begged Joshua to put Mr. Hare, the second mate, in charge until he felt better. Joshua refused.

Then Mary told him, "Joshua, before we return to New York, you will be a father. I can't rest easy with you so sick. Please, lie down."

Joshua touched her hand gently. "How wonderful that we are going to have a baby! You will need your rest." He sighed. "Get Mr. Hare."





Joshua told Mr. Hare why he was being put in charge of the ship. Mr. Hare answered, "Sir, I can handle the ship and the men all right. But I don't know how to read or write or figure. I couldn't do the navigating like you can." Joshua looked at Mary, and they felt each other's fear.

Driven by roaring winds, *Neptune's Car* reached Cape Horn. The waves were as huge as mountains and they thundered over the ship. Mary asked Mr. Hare to stay near Joshua and watch over him.

One day at noon Mr. Hare burst into Mary's cabin carrying Joshua, who had fainted. Mr. Hare had grabbed Joshua just in time to save him from being swept away.

As they put Joshua to bed, Mr. Hare said, "You will have to take over, ma'am."

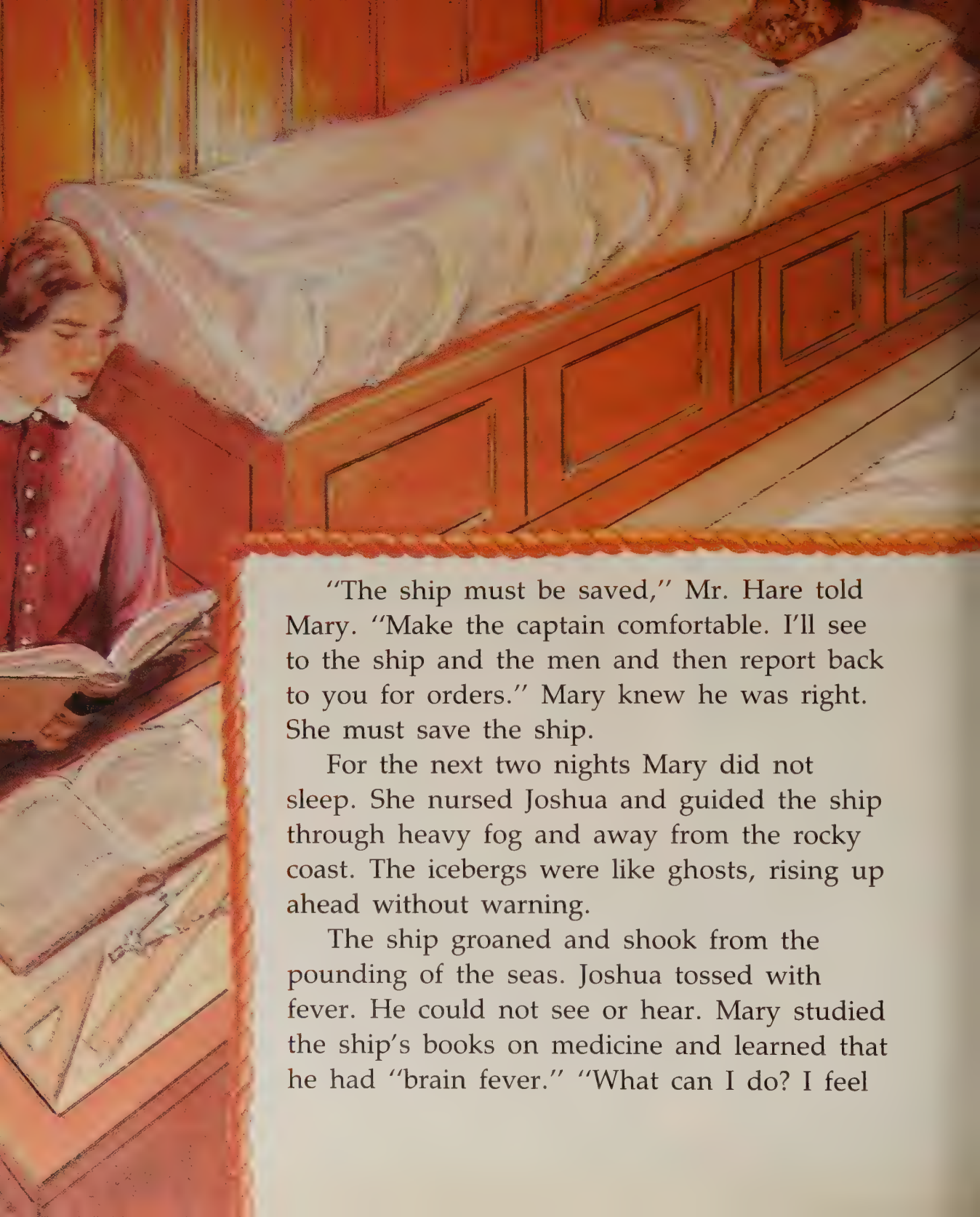
"What do you mean?"

"It's you or Keeler," said Mr. Hare. "You are the only one left who can navigate, and nobody trusts Keeler."

"But I must look after the captain."

"You must take command!" Mr. Hare said.





"The ship must be saved," Mr. Hare told Mary. "Make the captain comfortable. I'll see to the ship and the men and then report back to you for orders." Mary knew he was right. She must save the ship.

For the next two nights Mary did not sleep. She nursed Joshua and guided the ship through heavy fog and away from the rocky coast. The icebergs were like ghosts, rising up ahead without warning.

The ship groaned and shook from the pounding of the seas. Joshua tossed with fever. He could not see or hear. Mary studied the ship's books on medicine and learned that he had "brain fever." "What can I do? I feel

so alone, so tired," she said to herself.


That night Mary decided she would sleep with her clothes on to be ready for any danger. Before daybreak, she was suddenly called up on deck. Three sailors, high up on a wildly swaying mast, had just been blown off into the sea. "They are lost!" Mary cried out. Already half the crew was sick. "The ship will be helpless if we lose more men," she thought. "What will I do then?"

As the days passed, Mary got no sleep. There was so much to do. The waves were like walls of water. They swept over the ship. The cook's fires were put out. There was no hot food, no way to dry out their wet clothing.

Everyone on the ship was fighting to get it safely through the terrible storms around Cape Horn.

Then one morning Mr. Hare burst like a rocket into Mary's cabin. "We did it!" he shouted. "Cape Horn couldn't stop us! We have just sailed into the Pacific Ocean."

Mary leaped to her feet. She looked at Joshua, who was still senseless. How she wished she could tell him! Then she turned to Mr. Hare and said, "We brought this brave clipper around the Horn in eighteen days. I'm proud of the men." They shook hands happily.



Now fair winds and the warm southern sun favored *Neptune's Car*. Mary had more time to nurse Joshua.


As she worked on her charts one day, Mary saw that the ship was nearing California. "Soon the strange voyage of *Neptune's Car* will be over," Mary thought. "I'll miss this ship. I'm proud to be its captain. I'm proud that I brought it safely for eight thousand miles."

One morning *Neptune's Car* sailed into San Francisco Bay. Crowds watched her come in. Mary could see the other captains studying the ship closely. Their faces showed surprise that a woman was at the captain's post. Before noon the sails came down and the clipper was tied up at the dock.

Joshua was rushed to the hospital. Close friends brought Mary to their home.

"What a brave thing you did, Mary," they said to her. Mary looked across the bay to the open sea.

"For the past fifty nights I have slept in my clothing. Tonight I hope to have a hot bath and sleep in a soft, dry bed. I hope Joshua will be all right." Then she sighed. "I'm so tired."





## Checking Comprehension and Skills

1. What had Mary Patten learned to do on her first voyage on *Neptune's Car*? (395)
  - 2. What was Joshua's goal as the voyage began? (396)
  3. Why was *Neptune's Car* in so much danger during the voyage? (396–399)
  4. How would you describe Mr. Keeler? (396)
  5. Why was Mr. Keeler locked in his cabin? (397)
  6. Why did Mr. Hare want Mary to take command of the ship? (399)
  - 7. What was Mary's goal as captain of *Neptune's Car*? Did she achieve her goal?
  8. Was Mary a good captain? Why do you think as you do?
  9. What surprised other captains waiting for *Neptune's Car* as it came into dock? (402)
  - 10. Reread the first paragraph on page 398. What is Joshua's food compared to? How are they alike?
  - 11. Reread the second full paragraph on page 401. What are the waves compared to? How are they alike?
- 
- Story Elements: Plot
  - Context: Figures of speech (similes)

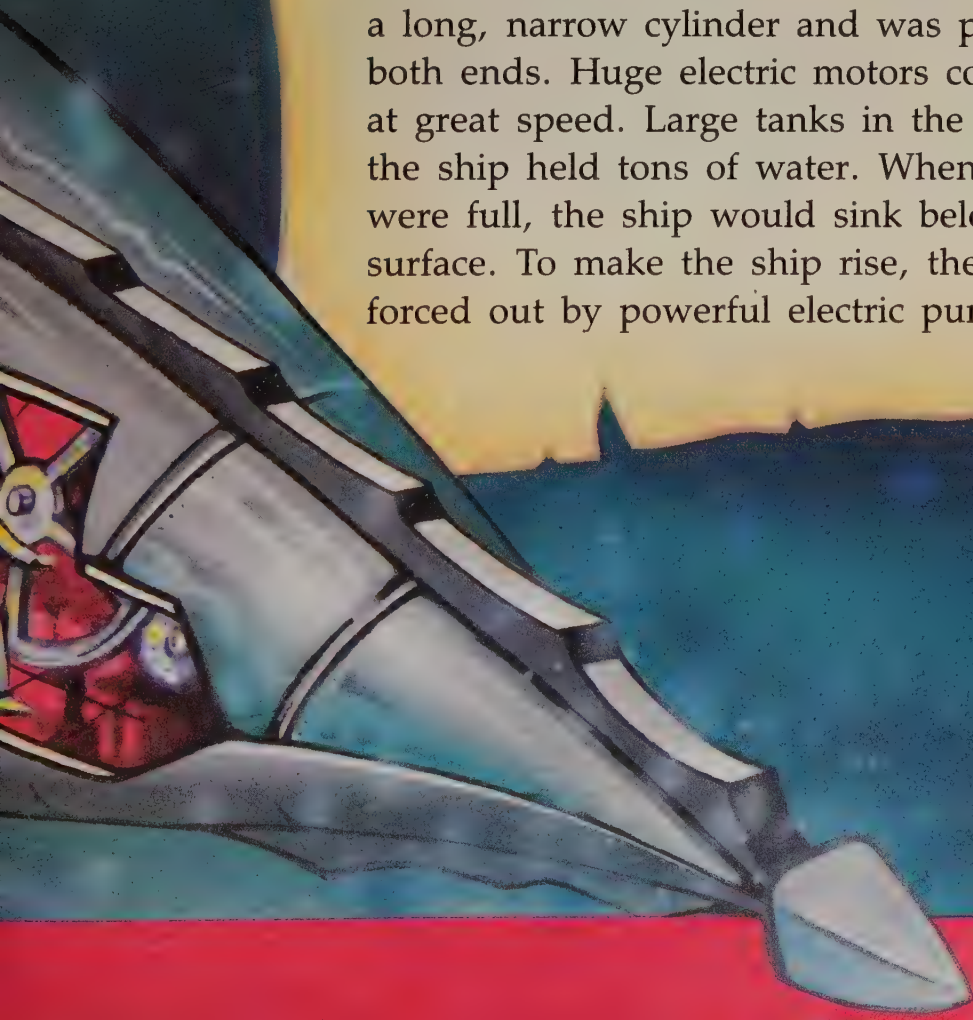




# The Nautilus

Clipper ships were still sailing the seas when Jules Verne wrote *20,000 Leagues Under the Sea* in 1870. In this story, he wrote about an imaginary submarine called *The Nautilus*. People loved his story, but at that time most of them thought that a ship which could sail under water was just a wild dream.

Jules Verne's imaginary *Nautilus* was an entirely new kind of ship. It was shaped like a long, narrow cylinder and was pointed at both ends. Huge electric motors could drive it at great speed. Large tanks in the bottom of the ship held tons of water. When the tanks were full, the ship would sink below the surface. To make the ship rise, the water was forced out by powerful electric pumps.





# *The Monster in the Sea*

adapted from *20,000 Leagues Under the Sea*  
by Jules Verne

*In this part of the story, Professor Aronnax and Ned Land struggle to stay alive in the sea. They fell overboard when their ship was attacked by a sea monster. The story is told by the professor.*

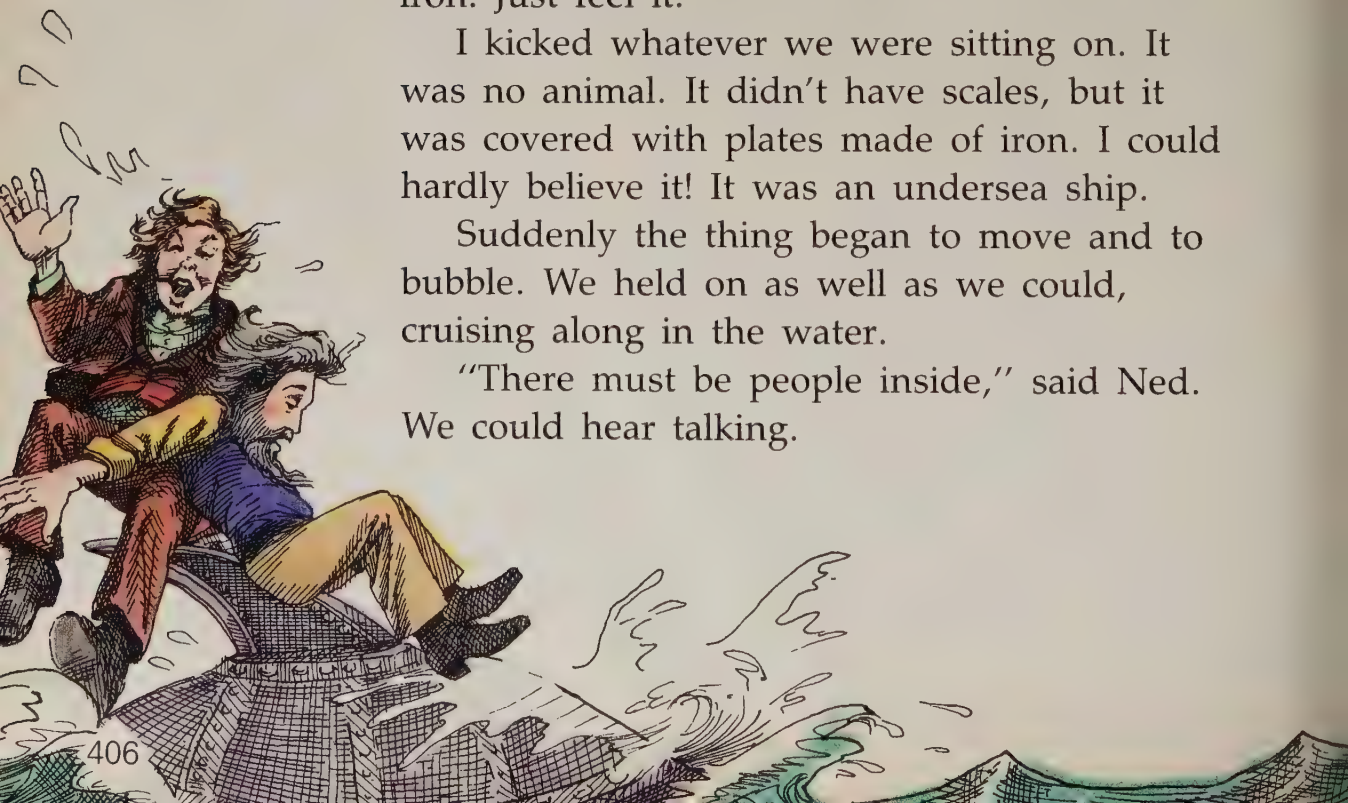
Suddenly an unbelievable thing happened. We found ourselves sitting on something that arose from the sea right under us.

"Ned," I yelled, "this beast is made of iron! Just feel it!"

I kicked whatever we were sitting on. It was no animal. It didn't have scales, but it was covered with plates made of iron. I could hardly believe it! It was an undersea ship.

Suddenly the thing began to move and to bubble. We held on as well as we could, cruising along in the water.

"There must be people inside," said Ned. We could hear talking.



“There must be some way to let them know we are here,” I said.

The moon set as the night wore on. The submarine sailed straight ahead.

Suddenly, to our horror, we felt the submarine sinking. We still had our shoes on, and we kicked the metal plates and yelled.

“Open up! Open up this thing!”

The submarine rose to the surface. One iron plate moved aside, and a man appeared. He said something we couldn’t hear. Then he disappeared.

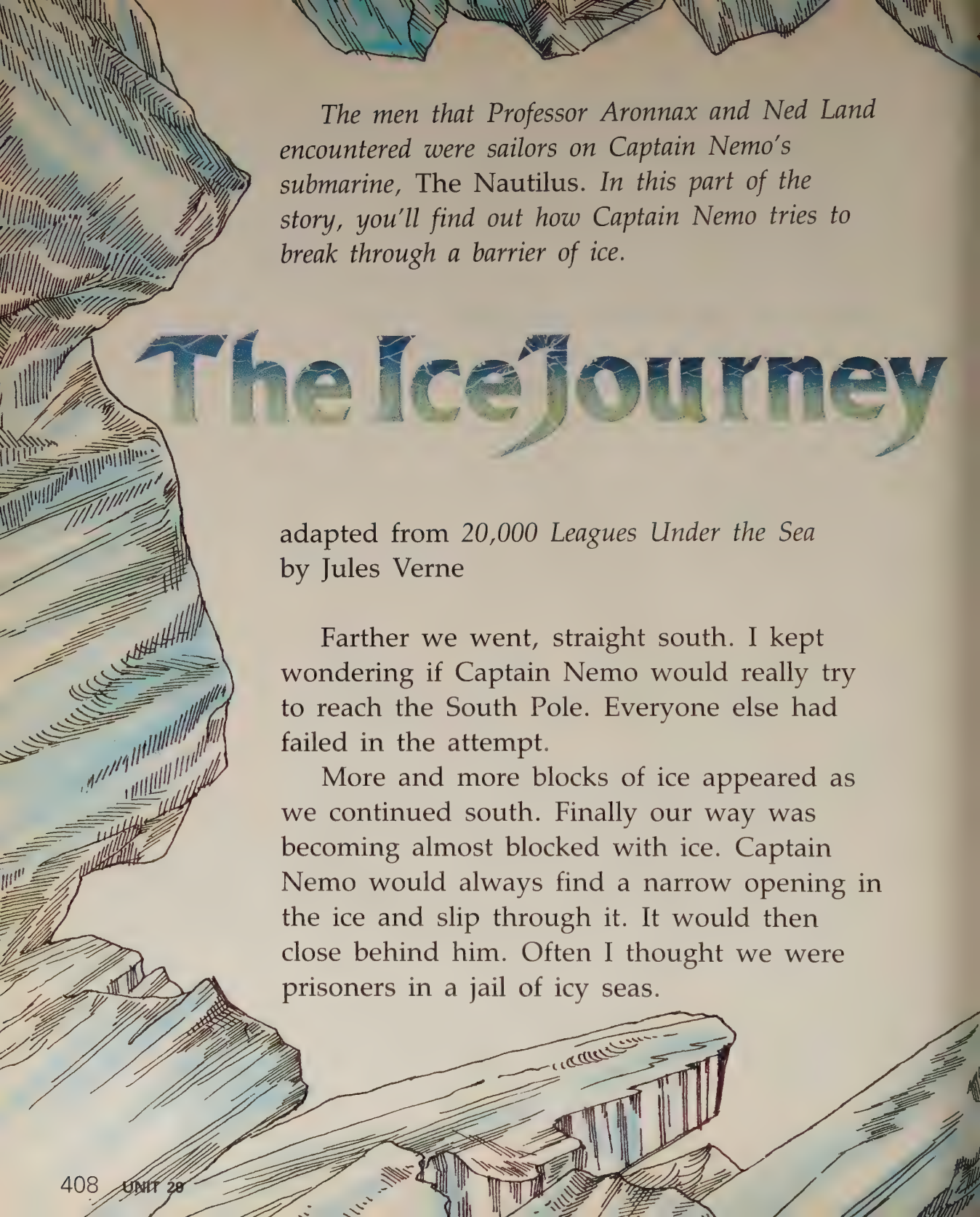
He returned with eight strong men wearing masks. They pulled us down inside the submarine. I shivered. Who were these men?

### ***Sharpen Your Skills***

The **setting** in a story tells you when and where the story takes place. Often the author tells you directly what the setting is.

1. Where are the men in the first part of the story? What makes their location dangerous?
2. If the story took place today instead of 1870, would the men be as surprised by the submarine? Why or why not?

Notice how the setting adds to the danger as you read more about the men on *The Nautilus*.



*The men that Professor Aronnax and Ned Land encountered were sailors on Captain Nemo's submarine, The Nautilus. In this part of the story, you'll find out how Captain Nemo tries to break through a barrier of ice.*

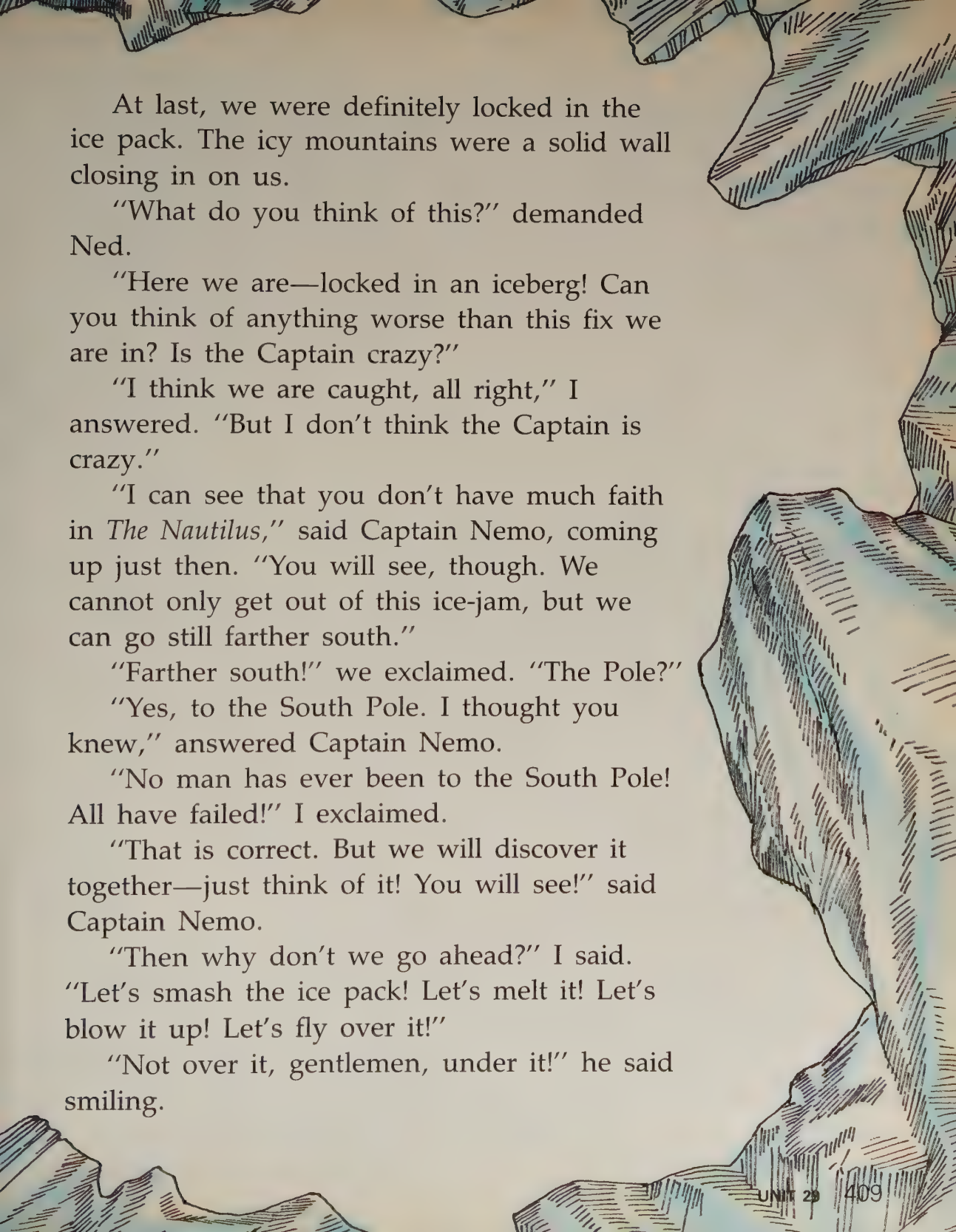
# The Ice Journey

*adapted from 20,000 Leagues Under the Sea  
by Jules Verne*

Farther we went, straight south. I kept wondering if Captain Nemo would really try to reach the South Pole. Everyone else had failed in the attempt.

More and more blocks of ice appeared as we continued south. Finally our way was becoming almost blocked with ice. Captain Nemo would always find a narrow opening in the ice and slip through it. It would then close behind him. Often I thought we were prisoners in a jail of icy seas.





At last, we were definitely locked in the ice pack. The icy mountains were a solid wall closing in on us.

"What do you think of this?" demanded Ned.

"Here we are—locked in an iceberg! Can you think of anything worse than this fix we are in? Is the Captain crazy?"

"I think we are caught, all right," I answered. "But I don't think the Captain is crazy."

"I can see that you don't have much faith in *The Nautilus*," said Captain Nemo, coming up just then. "You will see, though. We cannot only get out of this ice-jam, but we can go still farther south."

"Farther south!" we exclaimed. "The Pole?"

"Yes, to the South Pole. I thought you knew," answered Captain Nemo.

"No man has ever been to the South Pole! All have failed!" I exclaimed.

"That is correct. But we will discover it together—just think of it! You will see!" said Captain Nemo.

"Then why don't we go ahead?" I said. "Let's smash the ice pack! Let's melt it! Let's blow it up! Let's fly over it!"

"Not over it, gentlemen, under it!" he said smiling.

Then I began to understand what he had in mind. "But what if the Pole is on land?" I asked. "Or what if it is in the solid ice? What then?"

"The chances are good that it is in the open sea," he said.

"But what about air? You don't know how large the ice cap is."

"You are right. It will be several days before we can go up for a new supply of air."

Preparations for our daring trip to the South Pole under the ice cap were now begun. The powerful electric pumps began storing air in the reserve tanks. The panels were closed. A dozen or more men with pick-axes broke the ice around the submarine.

Once we were free of the ice, we descended to twelve hundred feet<sup>1</sup> by filling the water tanks. At twenty-six knots we moved ahead toward the Pole.

Once we struck an iceberg overhead. Captain Nemo told us there were three thousand feet of ice over our heads at that point.

By and by the air grew stale. We should have renewed our air supply long ago from the reserve tanks. But we knew that we might need the air much worse later.

---

1. about 365 m

Mile after mile, on we went under the ice. The air got worse and worse and I became dizzy and weak. I thought the night would never end.

Next morning I woke up with my lungs full of fresh air that was pouring into *The Nautilus*. I knew by our rocking that we were on the surface of the water once more. I heard a knock on the door of my cabin.

"Well, here we are at the South Pole!" said Captain Nemo. "The sea is open!"





Early the following day we began preparations to leave the South Pole. It was intensely cold. The bitter wind was a sharp knife.

The reservoirs of *The Nautilus* were filled with water. Slowly we began to descend into the ocean and then started forward at fifteen knots. Soon we were under an immense iceberg.

On either side of the submarine there was a wall of ice. First we tried going ahead, but our way was blocked. Then we tried going back, but we were blocked again. We were prisoners in a jail of ice.

"Are the air reservoirs full?" I asked.

"They will hold air for forty-eight hours longer," answered Captain Nemo.

"Can we get out in forty-eight hours?"

"We will try. We have to try to pierce the ice around us. Sound will tell which side is thinner. But we are in serious danger, and I rely on your help," Captain Nemo told me.

At noon Captain Nemo, Ned, and a dozen other men left *The Nautilus* wearing air-chambers and cork suits which helped keep them warm. With Captain Nemo the men dug into the icy walls, taking soundings. The



ceiling, they learned, was four hundred yards<sup>1</sup> thick. Below the ceiling, however, the thickness of the ice was only ten yards.<sup>2</sup> This was the place to dig.

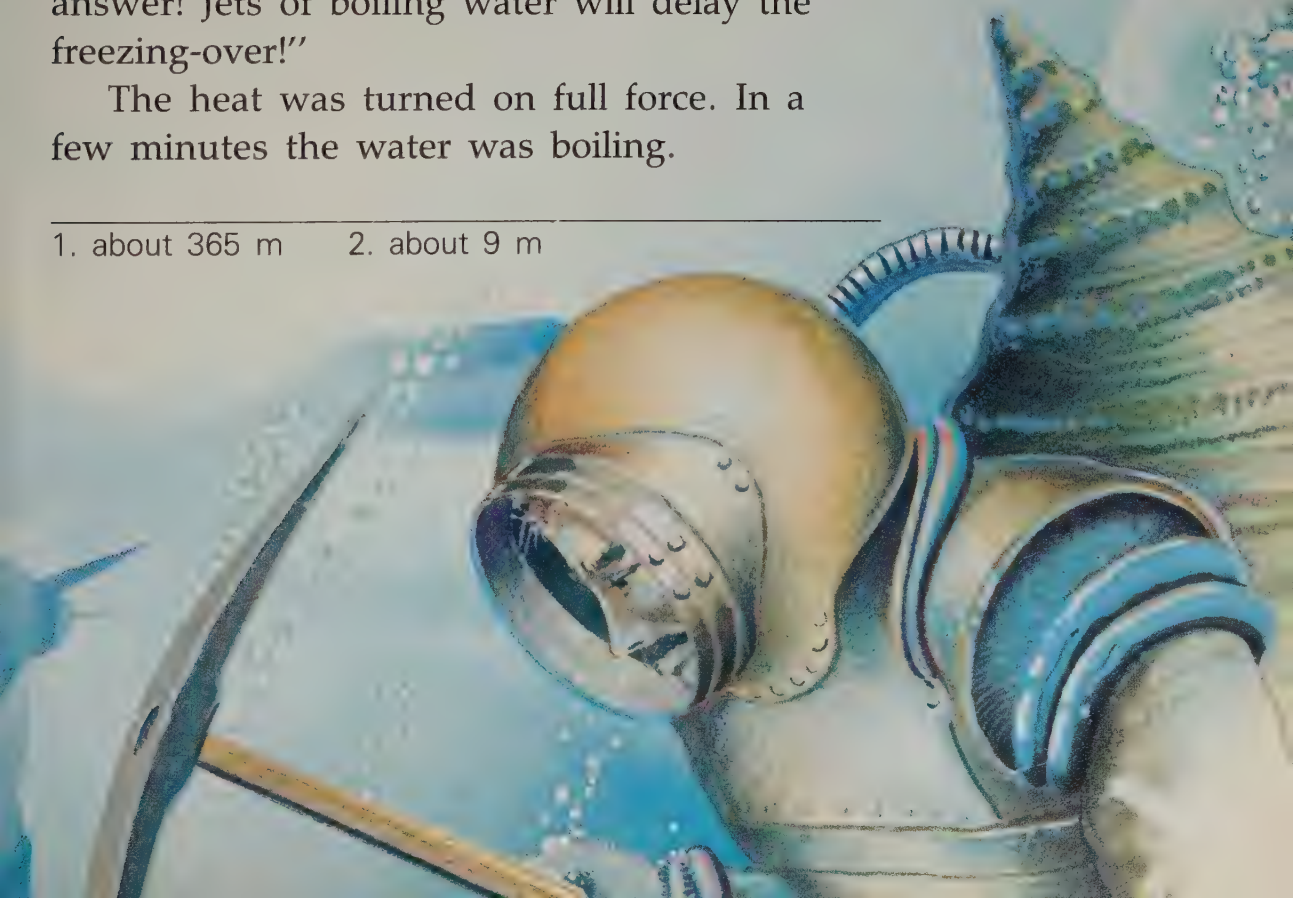
Instantly we fell to work with our pick-axes. We worked under the water. With air-chambers on our backs, our air was better than that in *The Nautilus*, which was now very heavy from the long hours undersea.

After five days of what looked to me like a losing battle against the ice, which was freezing over as fast as we could dig, Captain Nemo shouted, "Boiling water—that is the answer! Jets of boiling water will delay the freezing-over!"

The heat was turned on full force. In a few minutes the water was boiling.

---

1. about 365 m      2. about 9 m



Inside *The Nautilus* the air was almost unbearable, so we were glad to be working outside. By the end of that day, only two more yards were left. The air reservoirs were all but empty. The little air that remained must be saved for the workers.

On the sixth day of our imprisonment, Captain Nemo decided to crush the remaining ice. He floated *The Nautilus* over the remaining thin layer that the men had bored with a thousand holes to make it weak.

Then the reservoirs opened. A hundred cubic yards of water were let in. Soon I heard the roaring and cracking noise as we settled down and broke through the ice. *The Nautilus*, free of her prison, sank deeper into the sea like a bullet.

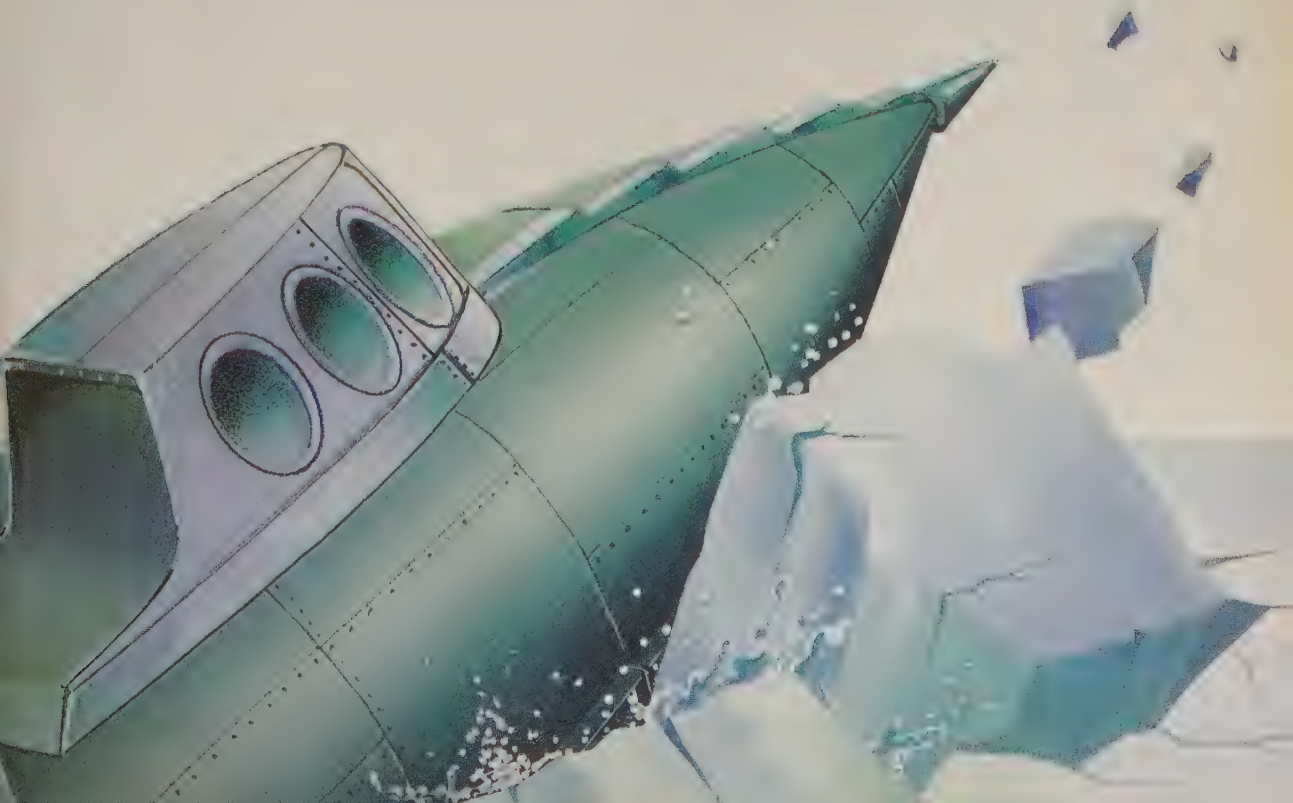
The electric pumps began to let water out of the tanks. Our fall stopped. Soon we were moving ahead, the engine going at full speed. Trembling in every bolt, the sturdy little *Nautilus* plunged steadily ahead toward the north. But how could we live another day without air?



At last I knew I was suffocating. I was stretched out across the bed. My body was a heavy log. I could not see or hear. Where was Captain Nemo, I wondered. Had he died?

*The Nautilus* tore ahead at a frightful pace. The stern was lowered to attacking position. Suddenly, *The Nautilus* was a battering-ram. It attacked the ice field from below. It backed up. It rushed forward. It backed up again. It rushed forward—the second attempt we shot through the ice!

Instantly the panels were opened. Fresh pure air rushed in to all parts of *The Nautilus*.



## Checking Comprehension and Skills

1. Where did Captain Nemo plan to sail the *Nautilus*? (409)
  2. How did the *Nautilus* get out of the ice jam and reach the South Pole? (409)
  - 3. Why was the voyage dangerous?
  4. What happened to the *Nautilus* after it reached the South Pole? (412)
  5. Why were the men glad to be working outside the ship? (414)
  6. Do you think the men had faith in Captain Nemo? Why or why not?
  7. How did the *Nautilus* break out of its prison of ice? (413–415)
  - 8. Would the crew face the same dangers if they were sailing in warmer waters? Why or why not?
  9. Would you like to be a member of the crew on the *Nautilus*? Why or why not?
  - 10. Reread the first paragraph on page 412. What is the wind compared to? How are they alike?
  - 11. Reread the second paragraph on page 415. What is the *Nautilus* compared to? How are they alike?
- 
- Story Elements: Setting
    - Context: Figures of Speech (metaphors)

# Something's Fishy

A magician carrying a bottle of water approached the throne of his king.

"Sir," he said to the king, "I have some magic water. Such is its power that it will dissolve anything it touches."

"Anything?" asked the king.

"Anything!" replied the magician.

The king knew the magician was mistaken. How did he know?

Answer:  
The king knew the magician was mistaken because if the liquid dissolved everything it touched, it would dissolve the bottle too.

WANTED: Jokes  
Ask five of your friends to write down their best jokes. (You write one too.)  
Share jokes. Who has the funniest joke?



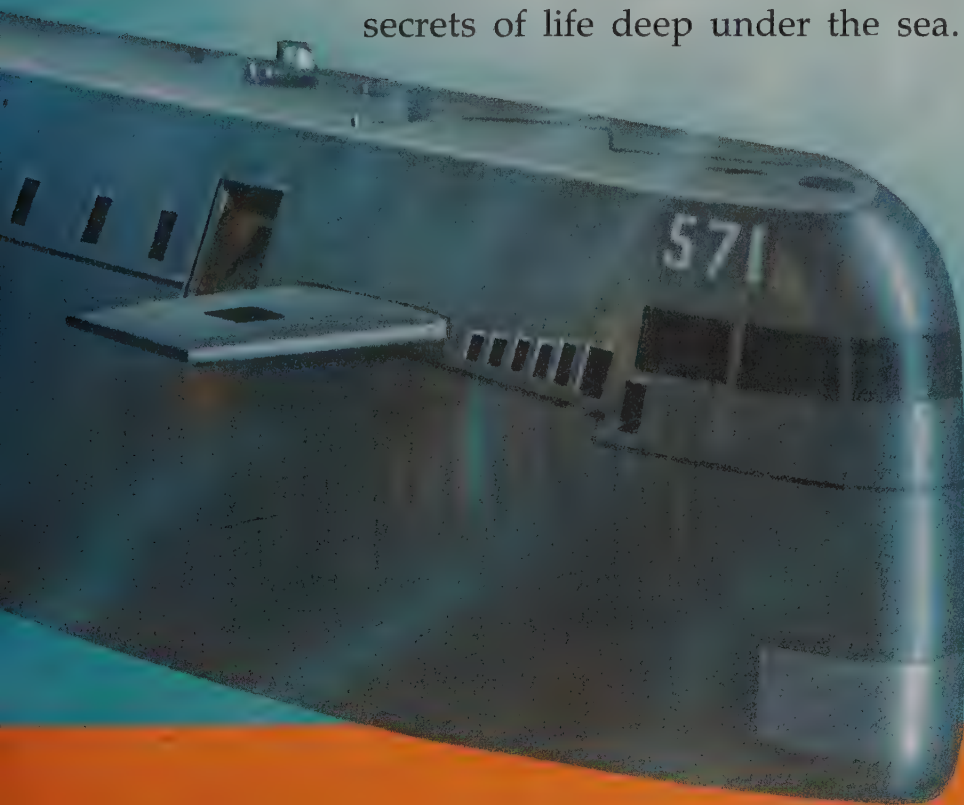
# MODERN SUBMARINES



Jules Verne's *Nautilus* used electricity for power. Now some submarines use atomic energy. The first atomic submarine was finished in 1954. It was named *Nautilus* after Jules Verne's ship, and it was about the same size. In 1958 the *Nautilus* was the first ship to sail under the North Pole.

Today new kinds of submarines are being built. Some are very large for long voyages. Some are small. The small ones carry only one, two, or three persons to study or work under water. They all seem as wonderful to us as Jules Verne's *Nautilus* did to people in 1870.

Through the use of the new submarines we are learning more and more about the secrets of life deep under the sea.



# Jim and

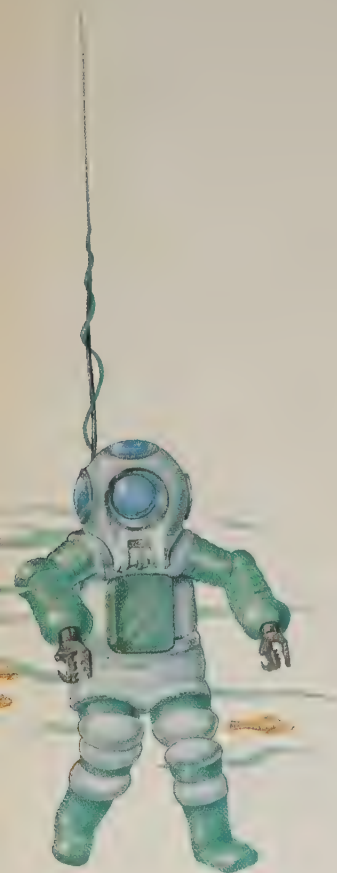
by Sylvia Earle

For hundreds of years divers were only able to go down a few hundred feet into the sea. They dived by holding their breath. To go deeper, divers needed special equipment to help them breathe and to protect them from the great pressure of the water.

In 1924 an Englishman named Joseph Peress invented a deep-sea suit called the "Iron Man." This kind of suit is still used today. It is now known as "Jim."

*Jim* makes it possible for divers to walk freely on the sea floor. Divers have a good view of the sea life there because *Jim's* helmet has windows on the sides and top. *Jim* is used in exploring for offshore oil, where the sea is no more than two thousand feet deep.

For going deeper than two thousand feet, a special kind of submarine is needed. One kind is *Alvin*. It can carry three people. *Alvin* has been down to ten thousand feet.





# Alvin

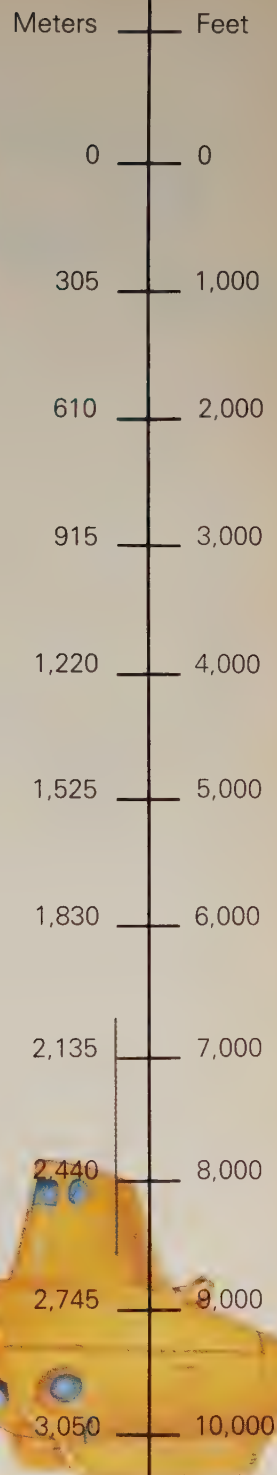
*Alvin* was used to study the Atlantic Ocean floor. There the crew took thousands of photographs and gathered hundreds of pounds of rocks.

## Sharpen Your Skills

Often sentences have words like *it* and *there* used in place of other words you have already read. For example, the word *it* in the last paragraph on page 420 is used in place of *Alvin*. If you don't understand a sentence that has words like *it* or *there*, reread the previous sentence or paragraph.

1. Reread the last paragraph of the article.  
What does *There* refer to?
2. "For going deeper than 2,000 feet, a special submarine is needed. One kind is *Alvin*."  
*One kind* means one kind of what?

Read the next two articles about personal submersibles carefully. Then, when you see words like *it* and *there*, you will be better able to understand the meaning of the words.



# Personal Submersibles

by Sylvia Earle

The Wasp



Underwater vessels that carry a single person are being used to explore the oceans. These are called personal submersibles. They cost much less to run than a small submarine like *Alvin*. Graham Hawkes of England has made them popular. In 1978 he built the *Wasp*, which has been compared to a diving suit without legs. Next, Hawkes built the *Mantis*. This is larger, torpedo-shaped, and can go deeper into the water. It has been down to twenty-three hundred feet.<sup>1</sup>

What Hawkes really wanted, though, was a one-person submersible that could go to the bottom of the deepest part of the sea, and one that could go there in comfort and safety. So, he designed the *Deep Hawk*.

The Mantis



1. about 700 m



The *Deep Hawk*, he says, will be as easy to drive as a sports car. He believes it will be safer than a small airplane. In the coldest of deep water, its cabin will remain at room temperature and pressure. It can carry enough oxygen to last several days. Through a window its pilot can look out at the world on the ocean's floor. At its deepest place, the ocean is almost seven miles<sup>1</sup> deep. Hawkes expects his *Deep Hawk*, one day, to go there.

Hawkes and the American diver, Sylvia Earle, will first take a pair of *Deep Hawks* down to five thousand feet.<sup>2</sup> This test will show how well the *Deep Hawk* performs in deep water.

Then they may try an overnight dive of twenty thousand feet.<sup>3</sup> "If you can go down to two thousand feet," Hawkes has said, "you should be able to go to twenty thousand. It certainly can't be much colder or any darker there."

1. about 11 km

2. about 1½ km

3. about 6 km



This proposed dive is pictured in the diagram on these two pages. Much testing remains to be done.

If this twenty-thousand foot<sup>1</sup> dive succeeds, deeper and deeper dives will be made. Graham Hawkes believes that one day we will give no more thought to taking a seven-mile<sup>2</sup> trip to the bottom of the sea than to getting into a car and driving seven miles into town.

- 
1. about 6 km      2. about 11 km

1. 5:00 P.M.

Divers help as a pair of *Deep Hawks* go down to twenty feet. Ocean water is taken on to add weight.

2. 5:18 P.M.

Ropes are let go. The *Deep Hawks* go down at about one hundred feet a minute.

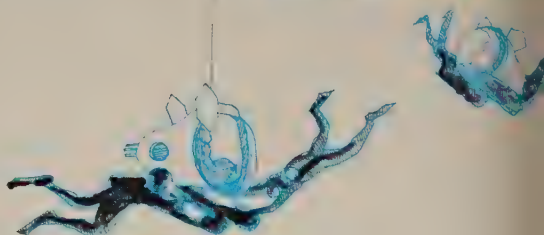
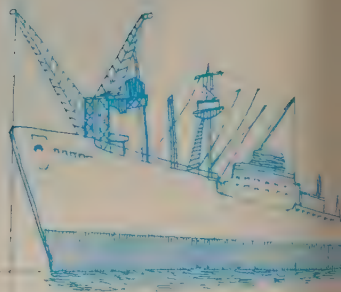
3. 6:55 P.M.

Halfway down. Low lights inside the cabins let the divers see each other as they talk and take notes.

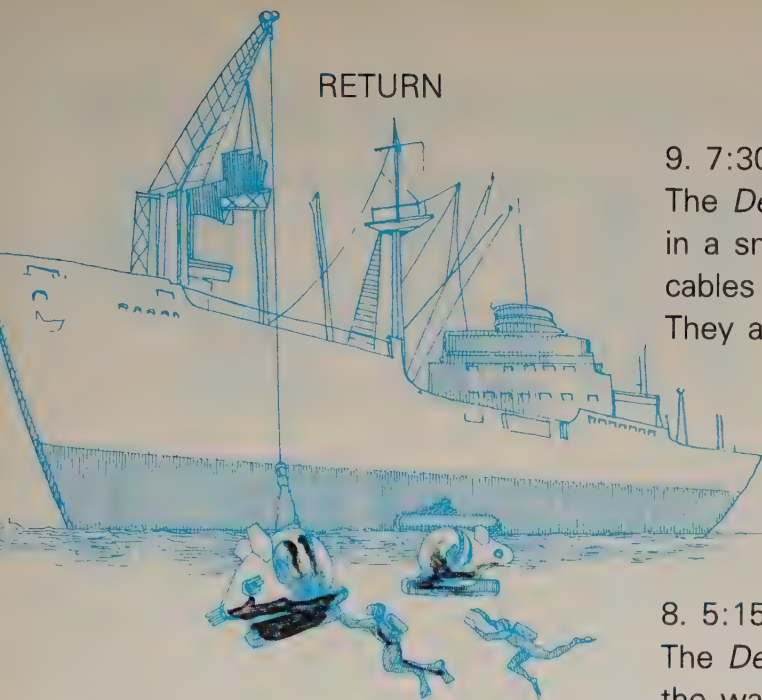
4. 8:28 P.M.

The sea floor is minutes away. The *Deep Hawks* are guided to a smooth place on the sea floor.

LAUNCH



## RETURN

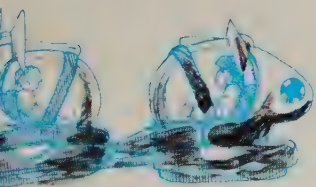


9. 7:30 A.M.

The *Deep Hawks* surface. Divers in a small boat fasten lifting cables to the *Deep Hawks*. They are lifted to the deck.

8. 5:15 A.M.

The *Deep Hawks* signal to let the waiting ship know where they are.



7. 2:50 A.M.

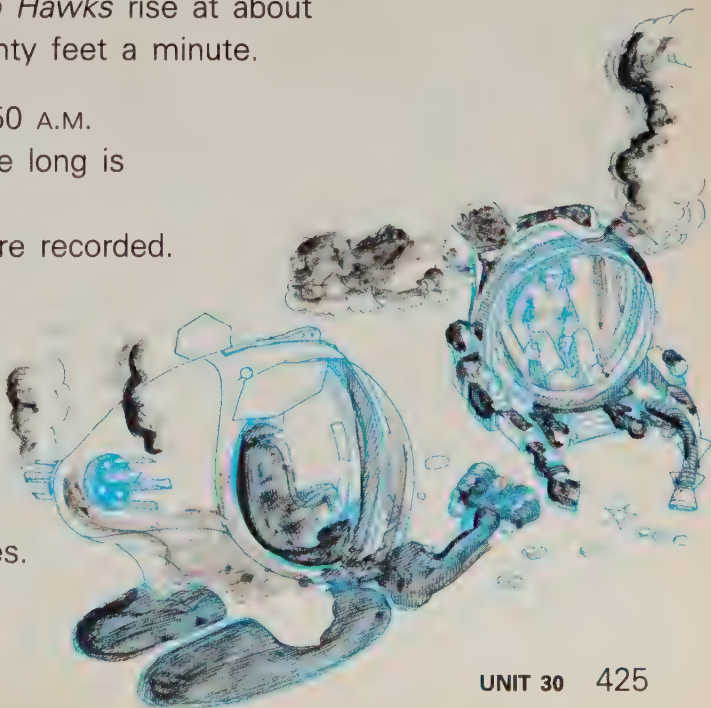
Motors are turned on and weights are dropped. The *Deep Hawks* rise at about seventy feet a minute.

6. 8:50 P.M. — 2:50 A.M.

A strip about a mile long is filmed. Current and temperature data are recorded.

5. 8:50 P.M.

Touchdown. The *Deep Hawks* separate, lift off slowly, and glide six to nine feet off the floor. Mechanical arms gather animals, rocks, and water samples.



# Strange Creatures of the DEEP

by John Sedgwick

On a February morning in 1979, the little submarine *Alvin* began its slow trip to the bottom of the ocean. The *Alvin* was four hundred miles<sup>1</sup> off the Galápagos Islands in the Pacific Ocean.

Fred Grassle was in the *Alvin*. He was a marine biologist who studied life in the sea. Grassle was going down to view a deep-sea phenomenon.

Nothing had been thought to live in the pitch-black, barren water thousands of feet below the surface of the ocean. But two years before, a volcanic area filled with strange creatures was discovered there. Hot water

---

1. about 644 km



loaded with chemicals from the earth's center came out of the vents, or holes, in the underwater volcanoes. Huge clams, mussels, flower-like animals, and giant tube worms lived in the warm water.

"It was like something out of Jules Verne," said one person.

Underwater Volcano Vent



Now Fred Grassle and a dozen other people were here to see this strange sea life.

The first animals to appear after *Alvin* touched bottom a mile and a half<sup>1</sup> below sea level were spaghetti-like worms. These worms had yellow strands waving slowly in the water.

Then, closer to the vents, thousands of little crabs darted everywhere across black lumps of lava. Yellow "dandelions," a kind of jellyfish, hung from long threads fastened to the rocks. Closer still to the holes, Grassle found huge beds of clams that were nearly a foot across. There were clumps of huge black mussels among the crabs. Other crabs without eyes lumbered with difficulty all about.

"Normally, you see very few animals on the rocky surfaces in the deep sea," said Grassle. "But here, by the vents, there seemed to be many unusual, large animals."

The *Alvin's* outside thermometer rose toward 60 degrees Fahrenheit,<sup>2</sup> showing that the submarine had reached the vents. A thick, tangled forest of worms was spotted. Their

---

1. about  $2\frac{1}{2}$  km

2. about 15 degrees Celsius

red tips flowed in and out. Grassle noticed that the tube worms covered every inch of the vents. They were oriented to the flow of water from the vents.

"It was an unbelievable thing to see," said Ruth Turner, a Harvard scientist, talking later about the forest of tube worms.

### Tube Worms







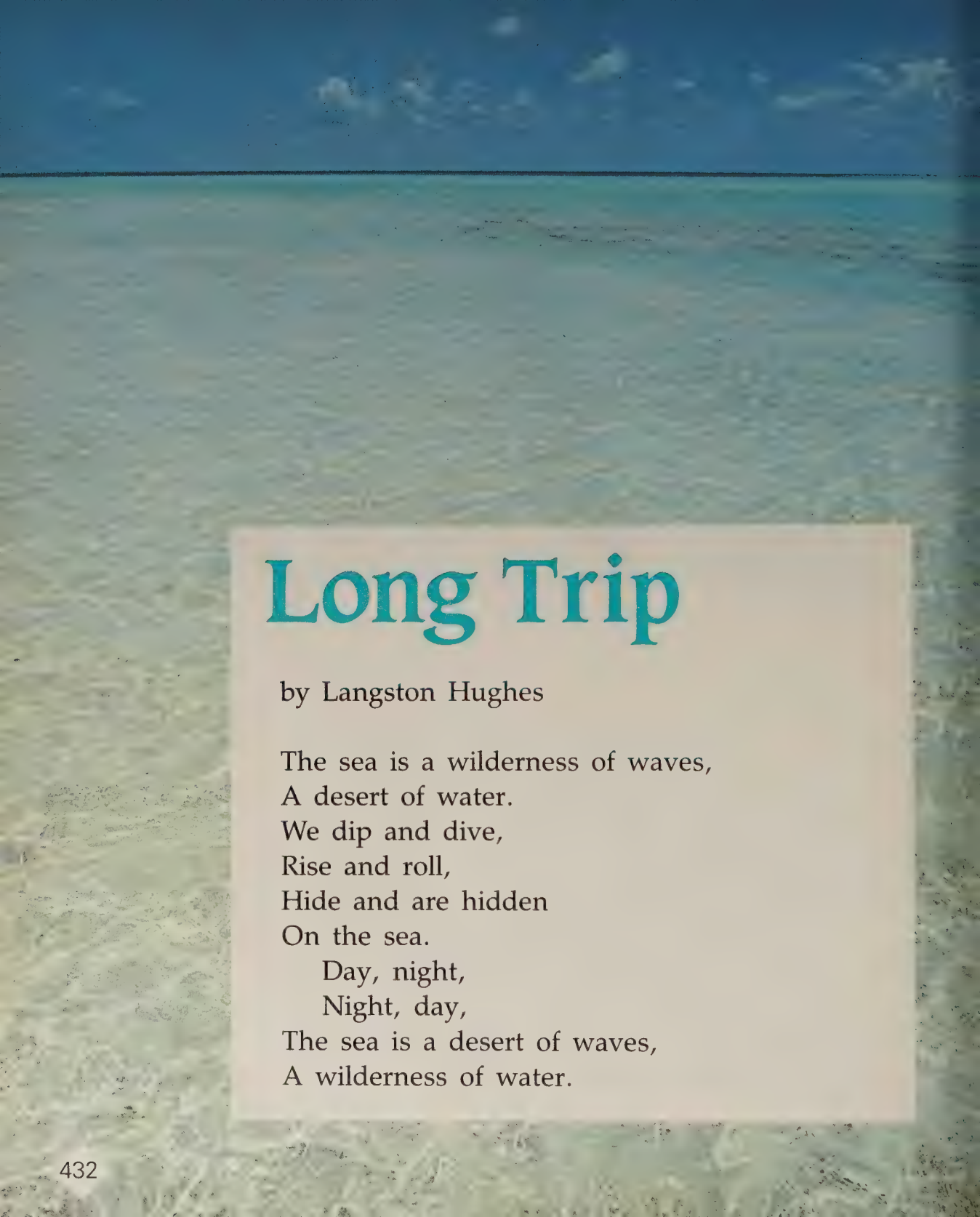
Crabs

How do these animals grow in such deep water without sunlight?

Grassle says that the crabs, clams, and worms at the vents live off bacteria which are very tiny plants. The bacteria, in turn, live off the chemicals in the water. The chemicals are contained in the materials coming out the holes in the sea floor. The chemicals come from deep within the earth.

## Checking Comprehension and Skills

1. How are personal submersibles different from a small submarine? (422)
- 2. Reread the first paragraph on page 422. What does “it” refer to in this sentence? “It has been down to twenty-three thousand feet.”
3. Why are one-person underwater vessels being used to explore the ocean? (422)
4. How far down into the ocean will the *Deep Hawk* be able to go? (423)
5. What happens at 8:50 P.M.? (425)
6. What do the *Deep Hawk* and the *Alvin* have in common?
- 7. Reread the last paragraph on page 426 and page 427. What does “it” refer to in this sentence? “It was like something out of Jules Verne.”
8. What kinds of animals did Fred Grassle find at the bottom of the ocean? (428–429)
9. How do the animals live in such deep water? (430)
- 10. Reread the second paragraph on page 426. What is a *marine biologist*?
- 11. Reread the last paragraph on page 430. What are *bacteria*?
- Referents
  - Context: Unfamiliar words



# Long Trip

by Langston Hughes

The sea is a wilderness of waves,  
A desert of water.

We dip and dive,  
Rise and roll,  
Hide and are hidden  
On the sea.

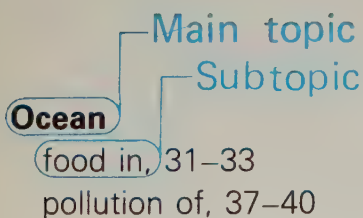
Day, night,  
Night, day,  
The sea is a desert of waves,  
A wilderness of water.



# Finding Facts Fast

Suppose you are reading a book about the ocean. You want to know if the book has any information about sea worms. How can you find out fast? Do you have to look through the whole book? No, you can use the index.

Here is part of an index you might find in a book about the ocean. Study the index and the tips for using it.



**Sea monster.** See **Sea serpent.**

**Sea serpent,** 110–115

**Whale,** 120–128. See also

**Mammals.**

**Worm**

flatworm, 77–79

ribbon, 80–84

shipworm, 85–89

## Index Tips

An **index** is an alphabetical list of the topics in a book. It also lists the pages on which you can find out about each topic. You'll find the index at the back of the book.

When you want to use an index, think of a key word or words for your topic. To find **Worm**, you'd look near the end of the index, since w is near the end of the alphabet.

The key word is often listed as a main topic. **Main topics** are the most important things covered in the book.

Page numbers are often listed right after the main topic. But sometimes other words are listed first and pages are given after them. Such words are called **subtopics**.

Under the main topic **Worm**, you can find the names of three different kinds of worms found in the ocean. Where could you find out about flatworms? Do you see the page numbers after that subtopic? Yes, information about flatworms can be found on pages 77 to 79.

Suppose you were looking up **Sea monster**. You would not find page numbers. You would find the words "See **Sea serpent**." That means you should look up **Sea serpent** to find the page numbers. Whenever you find the words *See* or *See also*, go to the topic that's named. You'll find information there.

Try looking up **whale**. What information does the index on page 433 give you?

Remember that an index can help you find facts fast. Think of key words and use the topics and subtopics in an index to help you get the information you want.

## Section Eleven



**Home Run Heroine Is Hope of Hegerville High 436-451**

**Go For It! Gamba! 452-467**

**Kids Speak Out on Sports 468-480**





# One for All and All for One

Playing on a team can be fun. You and your friends talk over your plays, and work and scramble together to score points. When you win, you congratulate each other with whoops. When you lose, you cheer each other up. You are the team—one for all and all for one.

But what if someone on your team pushes aside the other team members instead of cooperating with them? How do you handle it when someone feels that he or she is the only one on the team?

## Choosing the Appropriate Meaning of a Word



We tried several roads before we *hit* the right one.

---

Which picture belongs with the sentence above? Chances are that you picked picture B. Both pictures illustrate a meaning for the word *hit*, but picture B makes better sense.

### ***Sharpen Your Skills***

Many words like *hit* have several meanings. How do you know the right meaning when you come across such a word in your reading? Here are some tips.

1. Read the whole sentence in which the word appears and the sentences before and after.
2. Figure out a meaning that makes sense.
3. Check yourself by looking up the word in a dictionary or glossary. Read all the meanings given. Then pick the meaning that makes sense in the sentence.



If you look up the word *hit*, you might find an entry like this one.

**hit** (hit), **1** come against with force; give a blow to; strike; knock: *He hit the ball with the bat.* The ball hit against the window. **2** come upon; meet with; reach or find: *We hit the right road in the dark.* **3** have a painful effect on; affect severely: *They were hard hit by the failure of their business.* *v.*

Notice that three meanings, or definitions, are given. After each meaning you'll find one or two sentences in special print. They show how the word *hit* can be used with each meaning. Which meaning for *hit* best fits the sentence on page 438? Yes, meaning 2.

Read the following sentences and figure out a meaning that makes sense for each underlined word. Then look up each word in your glossary.

1. Each player on our team received a trophy.
2. The crowd cheered as the band started to play our school song.
3. Our volleyball team had several captains before we made Julio the permanent captain.
4. When we won, we were delirious with joy.

Use a dictionary or glossary to help you with the meanings of words in "Wanting to Win."

## *Sally, the Winner*

"Sally, will you race with our bike team on the fifteenth?" Meg asked. "It's a ten-mile<sup>1</sup> race."

"OK, I'll race, and I'll win," Sally said.

It took quite an effort for Meg to explain the rules to Sally. A person didn't win. A team won, and every team had a leader. The leader had to finish first in order for a team to win, otherwise the team would lose. On Meg's team, Carrie was the leader.

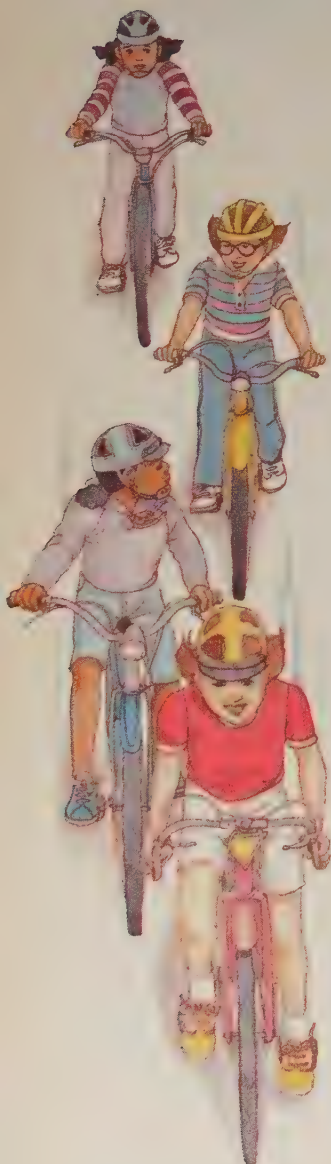
Sally practiced with the team during the next two weeks. She still had difficulty, however, understanding that all the team members had to be sure not to pull ahead of Carrie at the finish line.

Because she wanted to show she could be a good team member, Sally trained hard. On the day of the race, she followed the rules. She and the other racers took turns riding ahead of Carrie to act as windbreaks. This allowed Carrie to save her energy for the finish. At the eight-mile<sup>2</sup> marker their team was ahead by a narrow margin.

---

1. about 16 km

2. about 13 km



Sally longed to be the first to cross the finish line. She was riding just in front of Carrie. She knew that, in spite of the rules, she could finish first if she tried.

Suddenly, Sally heard Carrie yell, "I've got a flat!" Sally knew she should stop and give Carrie her bike. Although she didn't want to, Sally jumped off her bike. Carrie grabbed it and sped off to win the race.

"I almost won," Sally told Meg later.

"You did win, Sally," Meg answered.

### ***Sharpen Your Skills***

Words like *otherwise*, *however*, *because*, *in spite of*, and *although* can be important in your reading. They are called **connecting words** because they often tie together two ideas.

1. Reread the third paragraph on page 440.

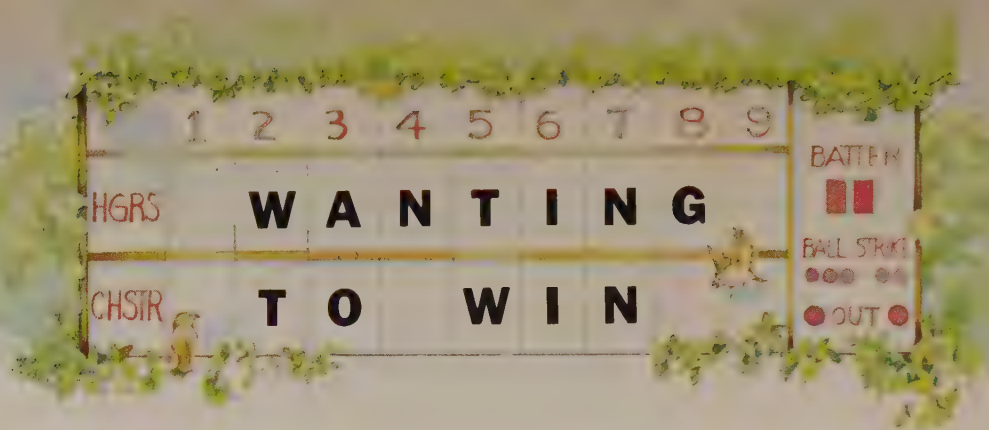
Which sentence tells you that Carrie was the only member of Meg's team who could win the race?

2. Reread the second paragraph on page 441.

Which sentence tells you that Sally gave her bike to Carrie even though she really didn't want to?

As you read "Wanting to Win," you'll see that connecting words tie ideas together.





by  
Donald Honig

You would have thought that after hitting the most famous home run in the history of girls' softball at Hegersville High, Tammy Evans would have been happy. More than happy. Delirious. But she wasn't. As a matter of fact, I never saw anyone more unhappy.

Tammy was my best friend. We both loved softball and played together on the high-school team. The difference between us was that when it came to softball, I couldn't compare to Tammy in ability. Tammy could do it all. Coach Buckman (everyone called her Bucky) said Tammy was without a doubt the best player she'd ever had in fourteen years of coaching.

Of course, Tammy came by her talent naturally. Her father played two years in the big leagues. Mr. Evans had started teaching Tammy how to play ball from the day she was old enough to walk. And Tammy idolized her father; otherwise she might not have played so hard. She really wanted to make her father proud of her.

But Tammy had one problem. She was inclined to boast. Well, more than inclined. She boasted day and night, winter and summer about what she could do on a ball field. When I called her on it, her answer was always that it wasn't boasting, it was self-confidence.

"If you say you're going to do something and then you back it up," she'd say, "then it isn't bragging."

The big game of the year was always against Chester High. Over the years a burning rivalry had developed between the two schools. But this was the year we figured we could stop them. We'd come up with a good pitcher for a change, Red Murphy. When Red was out there, all we needed was a run or two, and we could always rely on Tammy for that.

It was the last game of the season, and we had a won-lost record identical to Chester's. We not only had a chance to win the league title, but to take it from the one team we loved to beat.

Tammy came over to my house the night before the game. We talked for a while, then headed for the neighborhood ice-cream parlor.

"Tomorrow night this place is going to be jumping," she declared.



"Why?" I asked.

"Because there's going to be a victory celebration. My dad told me that last time we won the league title they had a parade down Main Street."

"They're really going to have a parade if we win?" I asked.

"They're getting organized right now," Tammy said. "The school band's going to be in it, and a couple of police cars with their dome lights whipping around. And I'm going to be in the first car."

"Why you?" I asked.

"Because I'm going to tag the big one," Tammy proclaimed. "I could hit Jackson right here and now in the dark." Cindy Jackson was Chester's ace pitcher. She had beaten us twice, giving up only one run in the two games. "Just wait," declared Tammy. "In spite of her record, I'm going to *demoralize* her!"

The ice-cream parlor was packed when we walked in. Red Murphy was sitting by herself at the counter.





"Hey, Red," Tammy said, "tomorrow you're going to see how this town treats a championship team."

"Unless we lose," Red said thoughtfully. She was a very serious girl with a permanent frown on her face, as if she were always in the middle of some heavy problem-solving.

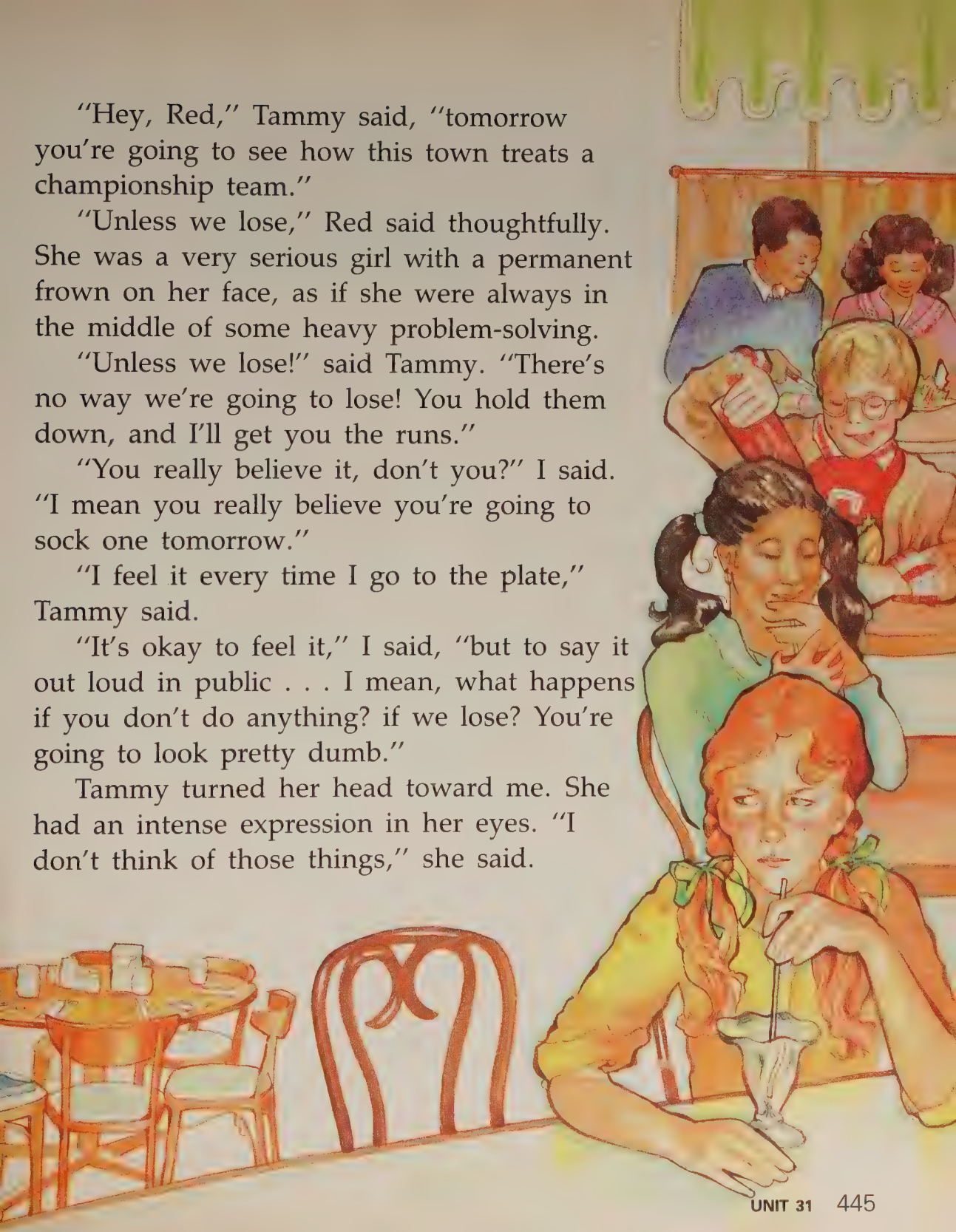
"Unless we lose!" said Tammy. "There's no way we're going to lose! You hold them down, and I'll get you the runs."

"You really believe it, don't you?" I said. "I mean you really believe you're going to sock one tomorrow."

"I feel it every time I go to the plate," Tammy said.

"It's okay to feel it," I said, "but to say it out loud in public . . . I mean, what happens if you don't do anything? if we lose? You're going to look pretty dumb."

Tammy turned her head toward me. She had an intense expression in her eyes. "I don't think of those things," she said.





We couldn't believe it when we came out of the clubhouse the next day and saw the grandstands packed and people sitting on the grass all the way down both foul lines. I had the feeling right off it was going to be a pitching duel. Through seven innings there was no score. Then in the top of the eighth, Chester got a player on first base with none out, sacrificed her to second, and then scored her with a single over the second baseman's head. Suddenly we were down by a run, and the way Cindy Jackson was pitching, that run looked mighty big.

In the last of the eighth all we did was stir up some breezes swinging at Jackson's fastballs. We were feeling pretty flat as we took the field for the top of the ninth inning. Our fans were absolutely quiet. From the expressions on their faces, you would have thought they were all wearing tight shoes.

In spite of that, Red Murphy, pitching the game of her life, put them down one-two-three



in the top of the ninth and then walked off the mound as everybody stood up and gave her a big hand.

But we were not out of it yet. We had our best players leading off in the last of the ninth. First Nita Sanchez, then Tammy. Nita was a skinny, left-handed hitter with quick wrists. Although she was small, she whaled Jackson's first pitch down the line for a double. So there she was, the tying run, standing on second base with her arms folded, while Tammy was coming to bat. The crowd had gone from dead silence to excited cheering and handclapping.

Bucky came walking down the line from the third-base coaching box to talk to Tammy. I watched them while they stood together. Tammy nodded her head while Bucky whispered instructions to her. I wondered if Bucky was going to let her hit away or was telling her to bunt. A bunt would bring Nita to third, from where she could score on an out.





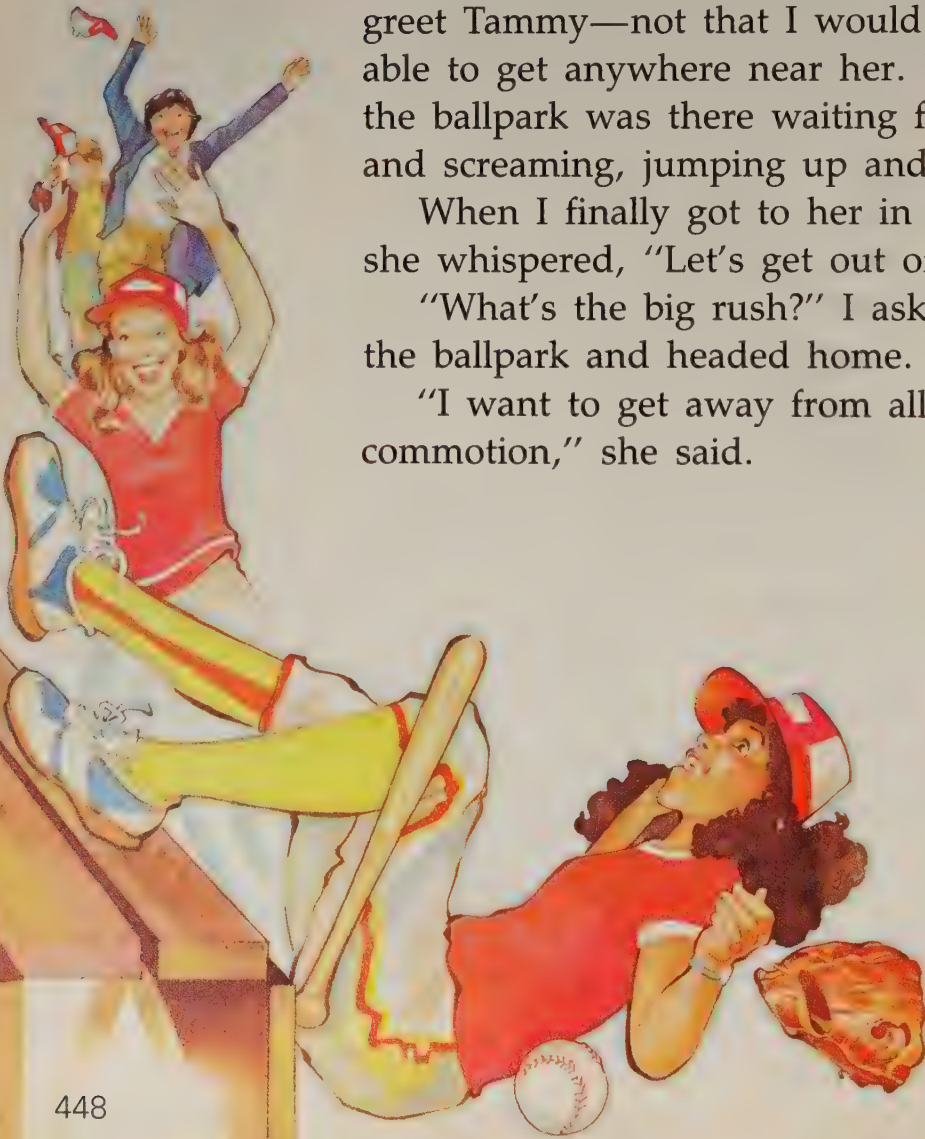
Then Tammy came back to the batter's box and dug in. Jackson delivered, her arm coming around like a whip. Tammy stepped into the pitch and timed it perfectly. When she hit it there was a clear, crisp rap. There was no question where that ball was headed.

I was so excited I fell backward off the bench and never did get to home plate to greet Tammy—not that I would have been able to get anywhere near her. Everyone in the ballpark was there waiting for her, yelling and screaming, jumping up and down.

When I finally got to her in the clubhouse, she whispered, "Let's get out of here."

"What's the big rush?" I asked as we left the ballpark and headed home.

"I want to get away from all the commotion," she said.



For the next couple of hours we just ambled idly around the outskirts of town. Tammy was very quiet. Once I asked if something was bothering her, but she shook her head.

Later we went to my house and sat on the porch steps.

"Well, I imagine they're getting organized for the parade," I said. "Aren't you going?"

Tammy shrugged. For a moment she just looked at the steps. "Man," she said quietly, "I really hit that ball, didn't I?"

Then I saw Tammy's father's car coming along the street. It stopped in front of my house. Mr. Evans got out, shut the door, and walked toward us. He stopped at the foot of the porch and looked at Tammy.

"Are you proud of yourself?" he asked.

Tammy didn't say anything.

"I talked to Mrs. Buckman after the ball game," he continued. "Do you know what she told me?"

Tammy nodded.

"You think you're pretty terrific, don't you?" said Mr. Evans. "You think you're more important than the team; otherwise you would listen to your coach. Let me tell you

something, Tammy. It doesn't matter how good a hitter you are. Unless you learn that softball is not a game of individual glory, you're not going to be worth anything to any team."

Mr. Evans walked away, got back into his car, and drove off.

"What was that all about?" I asked.

Tammy looked at me with a crestfallen expression on her face.

"I was supposed to bunt," she said. "My instructions from Bucky were to move Nita to third. But I just couldn't do it."

She thought for several moments, looking at the twilight that was beginning to fall.

"When I was coming around third," she said after a while, "I passed right in front of Cindy Jackson as she was leaving the field. You know what? She had tears in her eyes."

"She pitched a good game," I said.

"She sure did," said Tammy, as she gazed in the direction of Main Street, where the noise was getting louder. You could tell from the look in her eyes she wanted to be there, but she never budged.

I guess you might say that for Tammy it was the beginning of growing up.





## Checking Comprehension and Skills

1. Tammy was a good softball player, but she had a problem. What was it? (443)
- 2. Reread the last paragraph on page 442. Which sentence tells you why Tammy played so hard?
3. Why do you think it was so important to Tammy to hit the winning run?
4. Why was Tammy's father angry? (449–450)
- 5. Reread the first five lines on page 450. Which sentence tells you that Tammy had to learn that softball is not a game of individual glory?
6. In what ways was the night of the game the beginning of growing up for Tammy?

Use your Glossary to check your answers to questions 7 and 8.

- 7. Reread the second paragraph on page 446. Does the word *expressions* mean "looks" or "words"?
- 8. Reread the second paragraph on page 449. Does the word *pretty* mean "pleasing" or "rather"?

- Connecting words
- Dictionary: Word meaning







# What Makes a Champion?

People have always looked up to famous athletes. They have admired the athletes' strength and skill. Most athletes are strong and skillful, but not all athletes are champions.

What makes a champion? How does one athlete become a champion when so many others do not?





# About Running

by James F. Fixx

*James Fixx discovered he liked running very much. He ran every chance he got. Then he wrote two books about running that became best sellers.*

There are many different ideas about what is the best food for runners to eat. In an earlier time, some people said that athletes who wanted to be best at hurdles should eat kangaroo meat! One runner I know nibbles on raw sweet potatoes and another keeps canned sardines in his office. Another runner eats baby food during long races.

When I was running the marathon in southern Greece it was a very hot day. Every few miles the runners were offered an orange liquid in paper cups. When I tried to drink some as I ran, it sloshed onto my chest and got thick. Before many miles passed I began to feel like an orange lollipop left too long in the sun.

Running makes your whole body feel better. It is one of the best exercises there is, and certainly the simplest.

Running can be done anywhere. It requires almost no equipment, and costs almost nothing. Running shoes are all you need aside from old clothes. Most important, running is fun. You should try it.

### ***Sharpen Your Skills***

An author can have three **purposes for writing**—*to inform, to entertain, and to persuade*. An author usually has one main purpose, although two or even all three purposes may be in a selection. As you read, try to decide what the author's main purpose for writing is.

1. What is the author's main purpose for writing the paragraphs on page 454? Why do you think so?
2. What is the author's main purpose for writing the paragraphs on page 455? Why do you think so?

As you read the next selections about some famous sports figures, try to decide what each author's main purpose is—to inform, to entertain, or to persuade.



# The Great American

## Junior Gymnasts

by Ken Fulton

Jon Omori,<sup>1</sup> an eighteen-year-old from Los Angeles, California, is one of the three top junior gymnasts in the United States. The other two are Dennis and Dan Hayden, who are twins.

"I first started gymnastics when I was twelve years old," Jon said. "My mother joined a gymnasium to stay in shape. I tagged along and played around on the equipment. I became good enough to take part. But I wasn't

---

1. Omori (ə mōr'ē)



committed to the sport. Then I went to the Junior National Championships. That meet opened my eyes. When I saw how good everyone else was, it made me want to work harder."

Though Jon, Dan, and Dennis all wanted to become the best possible gymnasts, they needed a first-rate coach. They found one in Yoichi Tomita.<sup>1</sup> Tomita had been a gymnastics prodigy in his native Japan while in high school and then in the United States while in college. Later he was asked to become a coach for the junior team.

So all three boys moved from their homes to live and train with Tomita.

The reason for the move was simple. The boys had learned all they could from their local coach. They knew that to reach the top they had to work with someone who could give them more.

Tomita at once set up a training schedule. He started the three boys on a set of workouts.

"Coach Tomita worked me like I've never been worked before," said Jon. "He's so tough that the first few months I would cry sometimes. My arms would be numb after I finished."

---

1. Yoichi Tomita (yō ē'chē tō mē'tä)



Tomita put the boys through exhausting, six-days-a-week training. He also said they had to learn Olympic-level moves.

"In the past," Tomita explained, "American juniors didn't learn the harder moves. Now they learn these moves at an earlier age. When our juniors go up to the senior team they will already know the moves they will need."

Jon and Dennis have gone to China, West Germany, and England to compete against gymnasts from around the world. Dan remained behind because of injuries.

At every stop in their travels, the boys watched, listened, and learned the training methods their competitors used.

“When we were in Frankfurt, West Germany,” remembered Jon, “we trained hard with the German team. We learned a lot from them. Everyone learned new moves there.”

“We Americans have to work harder than anyone else,” said Dan. “We’re still playing catch-up with the Russians, the Japanese, and the Chinese.”

“That’s right,” added Tomita. “In the United States, we’ve just begun to use the training methods that the rest of the world has been using for years.”

Jon, Dennis, and Dan plan to be ready for the Olympics.

“When we get to the Olympics, watch out for the United States. We’ll be ready,” they said.

America’s top young gymnasts will be ready for the Olympics. They’ve borrowed the best from around the world and used it to make themselves better. They’ve borrowed something else too. It’s the Japanese word *gamba*.<sup>1</sup> The word means “go for it.” Most often the boys shout it in practice or during a match to inspire each other. But it applies to their Olympic goals as well.

Olympics . . . GAMBA!

---

1. *gamba* (gäm’bä’)

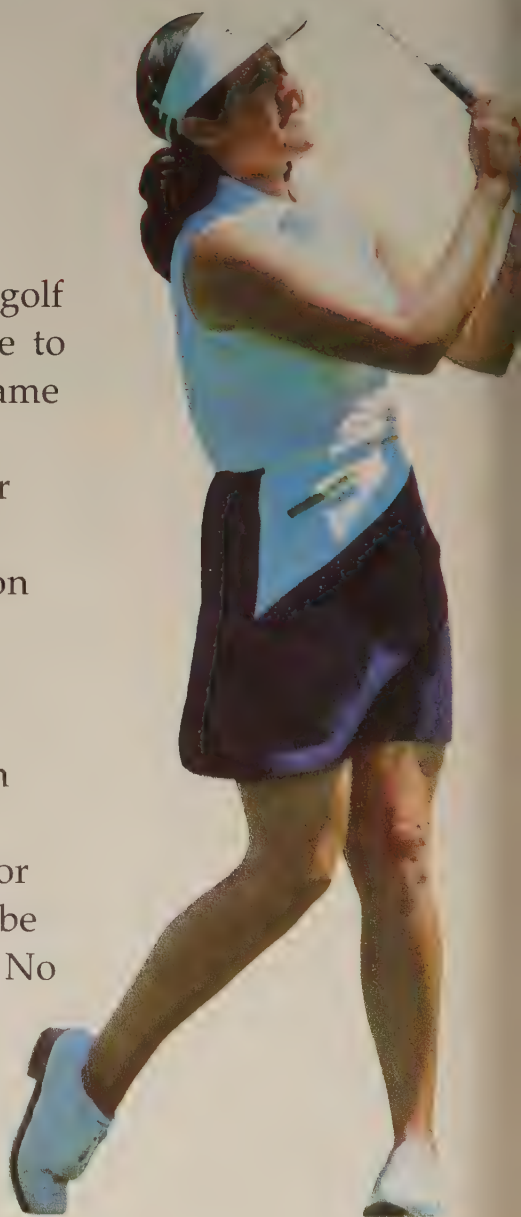


# *Five Tournaments All in a Row*

by Patricia A. Motto

The crowd was there to see Nancy and only Nancy. In the first three days of the golf tournament, thousands of people had come to watch her play. Among the people who came were reporters from the biggest television stations. Representatives from all the major newspapers were there. Many were from other countries. When two reporters met on the streets of Rochester, New York, that weekend, they always asked the same question: "Here to watch Nancy?"

The center of all this attention stood on the green, twenty-five feet away from the seventeenth hole. Nancy Lopez was tied for the lead. If she sank this one, she would be close to winning her fifth straight victory. No one in the history of golf had ever won five tournaments in a row. The eyes of the world were glued on her. Could she do it?



The long road to the seventeenth hole had been a rugged one. It began in a dusty town called Roswell, New Mexico. As a little girl, Nancy begged to tag along when her father, Domingo Lopez, played golf.

One fateful day, Domingo handed the seven-year-old a golf club. "You have to keep up," he told her. "There are people behind us, and we can't slow them down."

Nancy did a lot more than just keep up. It was soon clear that she had real talent. Her father sawed off his old clubs so the small girl could use them to practice. Her whole family pitched in, working hard to earn money to buy the equipment Nancy needed. They wouldn't even let her wash dishes, because she had to protect her hands.

Nancy entered and won her first tournament at the age of ten. At fourteen Nancy could already drive a golf ball farther than many women golfers. In high school she played on the boys' golf team and led them to a state championship.

Nancy turned professional in 1977 when she was twenty years old. At the end of the season she had earned over thirty thousand dollars. She was named Rookie of the Year by a golf magazine.

It should have been a joyous year for Nancy, but in the middle of 1977 her mother died. Nancy was deeply saddened. She began trying too hard. It was her father who comforted her and gave her advice. "Just let it happen," he told Nancy, "and it will."

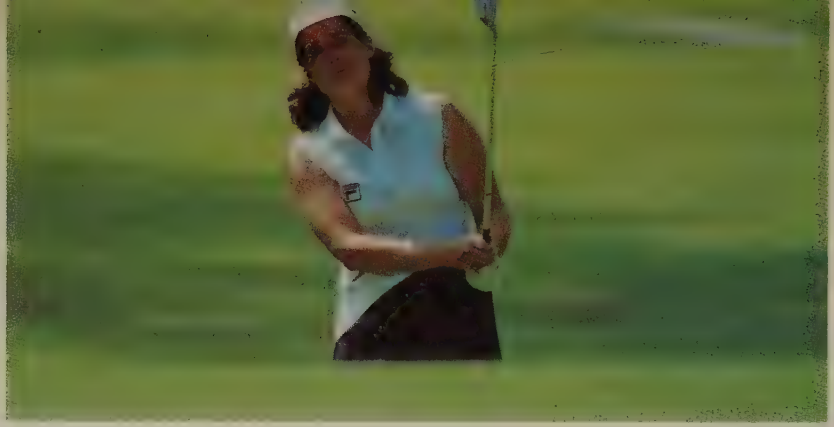
With her father's words in mind, Nancy began the 1978 golf season. And did things begin to happen! In May she won her first victory in the pouring rain. The next week in New Jersey, she won her second tournament with a breathtaking play-off. Victory number three came the following week in New York. In that tournament another player said, "I'm going to leave Nancy in the dust." But the spunky Lopez pulled off a come-from-behind victory.

Now people really began to take notice of Nancy Lopez. Strangers called out to her on the street and shouted encouragement. When Nancy won her fourth time in a row, she became a celebrity.

Everyone asked the same question: "Could she win five in a row?"







The fifth tournament began well for Nancy. Then disaster hit. Nancy drove the ball with her enormous power, but the ball strayed from its path and went into the crowd. Nancy found out that a man had been hit by the flying ball.

She rushed to his side. When she saw him lying on the ground with blood on his forehead, she burst into tears. As it turned out, he wasn't badly hurt. "At least I finally got to meet her," he joked with a friend. Nancy played the rest of the holes with tears streaming down her cheeks. She finished the first day one stroke behind the leader.

On the second day another emotional moment took place. Nancy saw a woman in the crowd who looked like her dearly loved mother. Nancy stopped, stared, and had trouble going on. She pulled herself together, but at the end of the day she was three strokes behind.



As Nancy played on the last day of the tournament, she slowly began to catch up—a stroke here, a stroke there.

Now she stood on the seventeenth green, neck and neck for the lead. The twenty-five feet to the hole looked like a mile. Nancy took a deep breath, aimed, and gave the ball a firm tap. It was the most important shot of her young life. The ball plopped into the hole. Nancy had the lead and she kept it. Number five was hers!

She went straight to the phone in the clubhouse and dialed a familiar number. Domingo Lopez answered. “Dad, I won!” she shouted. They cried happily together. Suddenly Nancy remembered. It was Sunday, June 18th. “Happy Father’s Day!” she laughed.

## Checking Comprehension and Skills

1. Who are Jon Omari, Dennis Hayden, and Dan Hayden? (456)
2. Why did the three boys move to train with Yoichi Tomita? (457)
3. Do you think that Tomita's training was too difficult? Why or why not?
- 4. What is the author's main purpose for writing about the gymnasts? Why do you think as you do?
5. What was Nancy Lopez's goal? (460)
6. How did Nancy's family help her? (461)
7. Do you think Nancy Lopez is a champion? Why or why not?
- 8. What is the author's main purpose for writing about Nancy? Why do you think as you do?
9. What word, like *gamba*, might you use to inspire yourself or your team?

Notice the underlined word in each sentence below. Ask yourself if it makes you feel favorable or unfavorable about the subject. Then tell if it has a favorable or unfavorable connotation.

- 10. Nancy hit the ball with enormous power.
- 11. Nancy won with a breathtaking play.

- Author's purpose      ◦ Context: Connotations



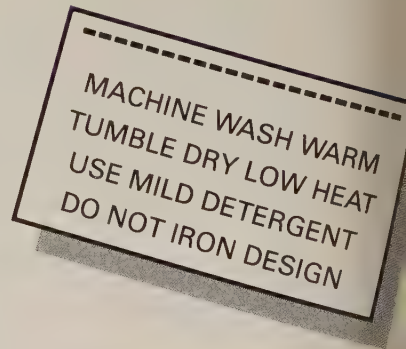
# Reading Care Labels for Clothes

Clothes have labels that tell how to care for them. If you understand the labels you will know how to take care of your clothes properly.

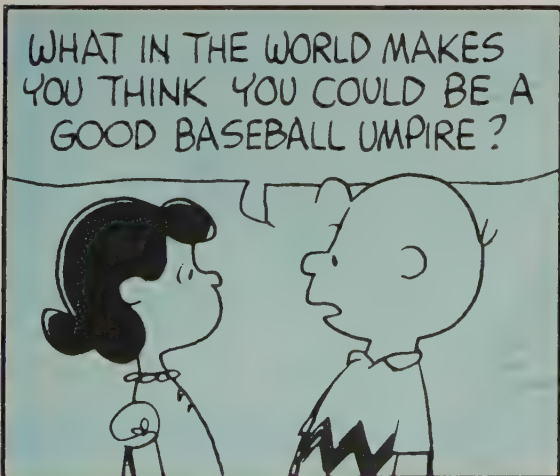
Read the labels below from two shirts.



1. Which two care directions are the same for both shirts?
2. Which shirt has the care directions on the back of the label? How do you know?
3. Which shirt should you not use bleach on? How do you know?
4. Which shirt has a design on it? What should you not do if you iron the shirt?



# PEANUTS®



©1965 United Feature Syndicate, Inc.

## ◆ Getting Started



What is the most exciting team sport?

Which football team will be in the playoffs this year?

What basketball player handles the ball with the greatest skill?

Who is the greatest hitter in baseball?





# Speaking of Sports

Chances are, if you and your friends try to answer these questions, your answers will not be the same. Each of you has your favorite sport, your favorite team, your favorite player. Part of the fun of being a sports fan is having strong feelings and ideas about the sports you enjoy. You may agree or disagree with your friends, but sharing your opinions and rooting for your team is what makes being a sports fan exciting.

# Who Said That?

The following story appeared in the Glen River Junior High School newspaper.

---

## Glen River Trounces Longview 10-6

---

The Glen River Rangers trounced the Longview Eagles in Saturday's baseball game. In the first inning, Jackson hit a long drive toward left field and reached second base. Rogers then smashed a home run to push the score to 2-0. But this was only the beginning. The Rangers drove in

one run after another while the Eagles botched play after play.

Poor fielding by the Longview Eagles showed up time after time. Though the Eagles managed to get six runs, they just couldn't hit the fast balls thrown by the superior Glen River pitchers.

The account of the game that appeared in the Glen River city newspaper is at the top of page 471.

## Glen River Wins Over Longview 10–6

---

The Glen River Rangers took a lead of 2–0 in the first inning of the baseball game against the Longview Eagles on Saturday. Jackson's hit and Rogers's home run gave the Rangers a lead they never lost.

The Eagles made six runs early in the game. But they could not catch up. The players in the field had been weakened by injuries in earlier games. The Eagles could not keep the Rangers from scoring the winning runs.



### ***Sharpen Your Skills***

**Biased writing** is writing that favors one side too much. It tells just one side of a story and often contains “loaded words.” “Loaded words” not only describe something, but also slant your view. Balanced writing gives both sides of a story.

1. Was the school newspaper's account of the softball game biased writing or balanced writing? Why do you think so?
2. Was the city paper's account of the softball game biased writing or balanced writing? Why do you think so?

As you read the next selection, decide which responses from readers are biased and which are balanced.



SPECIAL  
ISSUE ★

A soccer ball with purple and white panels is shown in mid-air, moving from the top right towards the center. It has motion lines trailing behind it.

# YOUNG SPORTS

PRESENTS

## QUESTIONS OF THE MONTH

This month *Young Sports* magazine turns to the world's favorite sport, soccer. As you may know, soccer is a cousin of American football. It is played in over 140 different countries. Both games grew out of a game first played in England hundreds of years ago.

One of the big differences between soccer and football is that in soccer there is no tackling. A player moves the ball down the field by kicking it or by guiding it with the foot. A player may also use the head, chest, or leg—not the hands. Only the goalie can use hands to touch the ball. As in football, there are two teams. Points are scored when the ball is kicked into the other team's goal area. Of course, the opposing team's players try to keep this from happening.

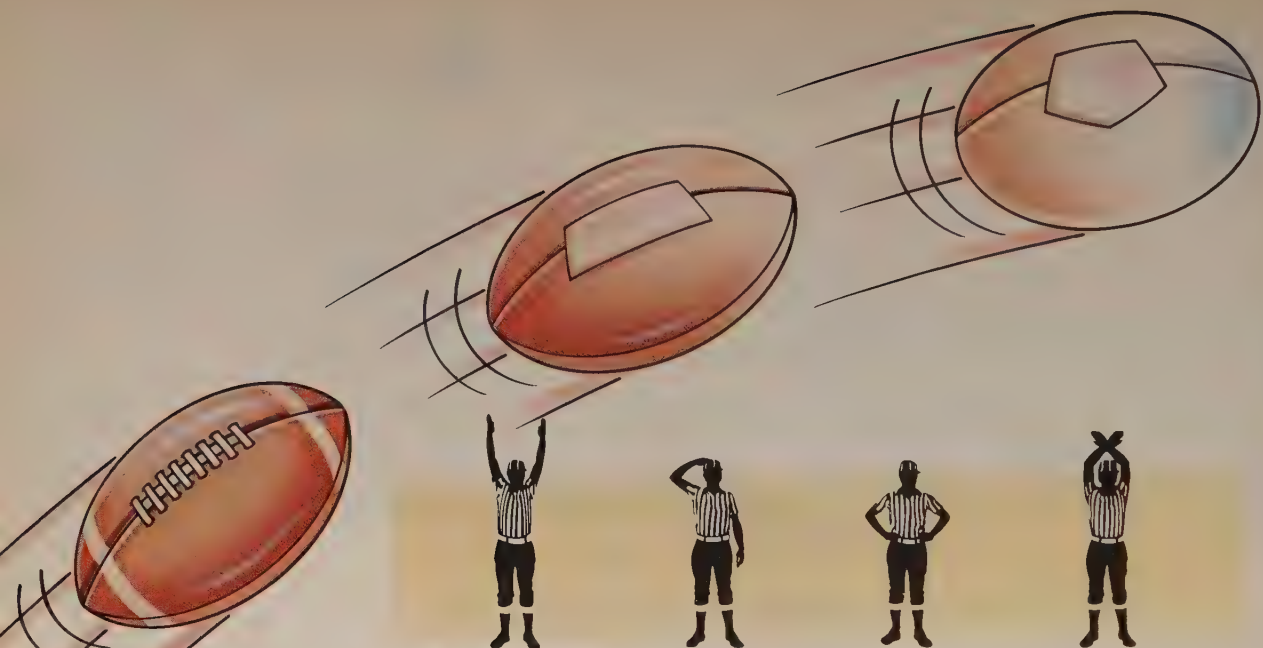


Soccer has been gaining in popularity in the United States. *Young Sports* has asked three young readers to write their answers to our “Questions of the Month.”

**Q.** *More and more Americans are watching and playing soccer. Would you like to see soccer take the place of football?*

**A.** ERIN: I don’t see how there could be any question. Soccer’s a much better sport. I mean, who wants to watch a dull old football game? All you see is the same old thing—big hulks lunging into each other and scurrying around like crazy. Now that soccer is played in the United States, there is a choice. Soccer games are fast. The players have to be cagey and quick to win. They have to use their heads. It’s a game for sports fans with brains!

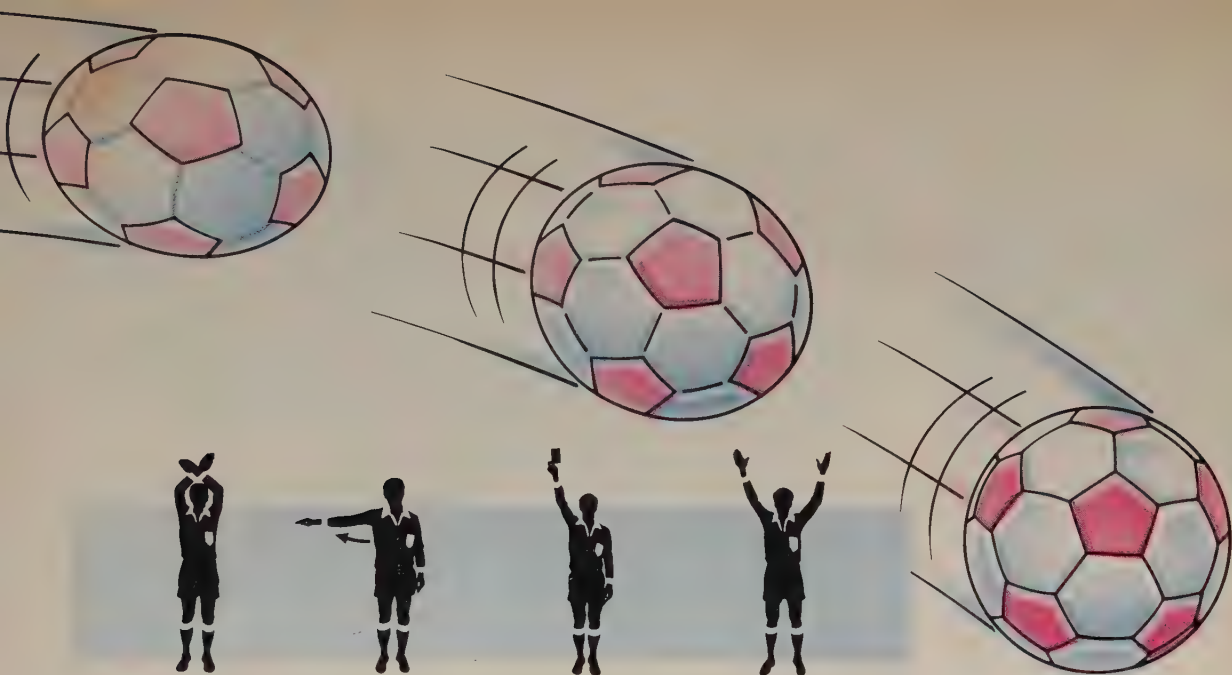




**A.** RUSS: You've got to be kidding! Soccer will never take the place of football. Football is a real American game. It's a tradition, like Thanksgiving turkey. My dad played football in high school, and some day I'll play too. Football is a game that everybody likes. And besides, there is a lot more action in football. Football keeps you wide awake. Soccer's just confusing. Watching all those characters kick the ball around—who can keep track of what's going on? Football will always be number one with me.







**A.** DONNA: I don't know if soccer will ever be more popular than football, but there is something to be said for both games. As Russ said, football is familiar to most Americans. We like to watch it because we know what to expect. I like watching my friends play in school games. It's fun to kid around before a big game about which team is better. On the other hand, soccer is interesting *because* it's not so familiar. To many of us, soccer is still kind of new and different. And it's such an international sport. It gives Americans a chance to compete with players from all over the world! Some people like soccer better because fewer players are likely to get hurt playing it. I think that's a good reason. But to tell you the truth, I like to watch both sports.



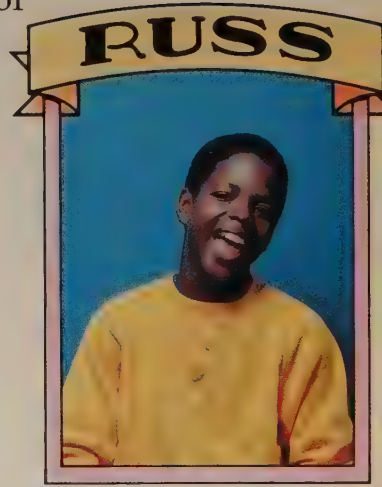


**Q.** Now for our second question. In soccer and in other sports, boys and girls often play on the same teams. Do you think this is a good idea?



**A.** ERIN: No way! I definitely would never want to play on the same team with boys. When you play on the same team with boys, it is not a game, it's war. Those big lugs don't care about anything but winning. Boys play too rough. Most boys are bigger and stronger than a lot of girls. I'd worry about getting injured competing with boys. Girls are fair. They follow the rules of the game, and most girls are better sports than boys. When you play on a girls' team, you can relax and have fun. I don't think it matters if it's soccer or some other sport. I can't think of any sport I'd want to play with boys.

**A.** RUSS: I think most of the time it's good for girls and boys to be on the same teams, but other times it's not so good. I definitely think it depends on the sport. Some boys are bigger and stronger than many girls. But in soccer, for example, that wouldn't matter much. In soccer, speed and cleverness are more important than size. I've played baseball with girls, and some of them were terrific players. A lot of girls can pitch, catch, hit, and bunt as well as most boys. I don't think I'd play football with girls, though, because football can get too rough. Not many girls are as hefty as the largest boys who play football. They would be competing at a disadvantage. There's one nice thing about boys playing on the same teams with girls—it gives us more to talk about with each other. That makes it easier to get to know each other.







**A.** DONNA: How could anyone ask such an outrageous question in this day and age? Of course, it's a good idea for boys and girls to play on the same teams! Anyone who doesn't think so is—prehistoric. If you watch sports on TV you can see how many fantastic women athletes there are in all sports. It just makes sense that good players should play together. It doesn't matter if they're boys or girls. All that talk about boys being bigger and tougher is ridiculous! Boys come in all sizes. So do girls. I'm on a softball team with both boys and girls. We're a great team! I'd play soccer with boys, too, if I had the chance.



*Young Sports thanks Erin, Russ, and Donna for answering this month's questions. Now how about you readers out there? How would you answer the "Questions of the Month"? We'd like to know.*

## *Checking Comprehension and Skills*

1. What is one big difference between soccer and football? (472)
2. What were the two questions of the month? (473, 476)
- 3. Did Russ give a biased answer to the first question? How can you tell? (474)
- 4. What are some of the words Erin used to show her bias against football? (473)
- 5. Donna gave a balanced answer to the first question. Tell two reasons why she is in favor of soccer replacing football and two reasons why she is against it. (475)
- 6. Who gives a balanced answer to the second question? Why do you think so?
7. Think of a question of the month. Ask three or more friends to answer it.

Notice the underlined word in each sentence below. Ask yourself if it makes you feel favorable or unfavorable about the subject. Then tell if it has a favorable or unfavorable connotation.

- 8. Those big lugs only care about winning.
- 9. It's prehistoric to say that boys and girls can't play on the same team.

- Biased writing      ◦ Context: Connotations

## Different Ways to Read

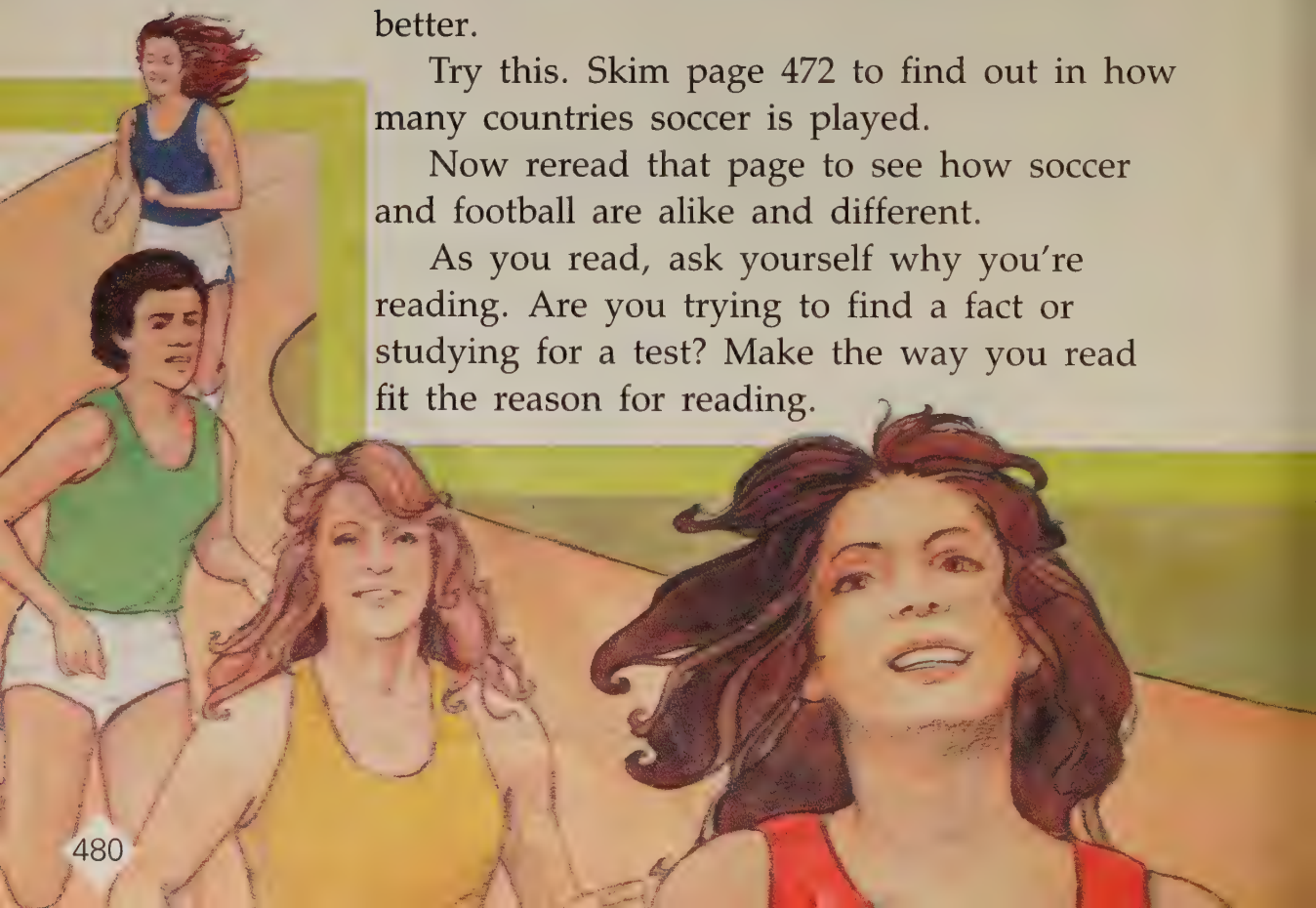
If you've seen track meets, you know that people don't always run at the same speed. A runner might run slowly for part of a race and fast at the end.

People don't always read at the same rate either. If you want to preview, or if you want to find a fact quickly, you skim. **Skimming** is glancing over a page, looking for certain or specific words, names, or dates. Other times you may need to **reread**. Rereading slowly and carefully can help you understand ideas better.

Try this. Skim page 472 to find out in how many countries soccer is played.

Now reread that page to see how soccer and football are alike and different.

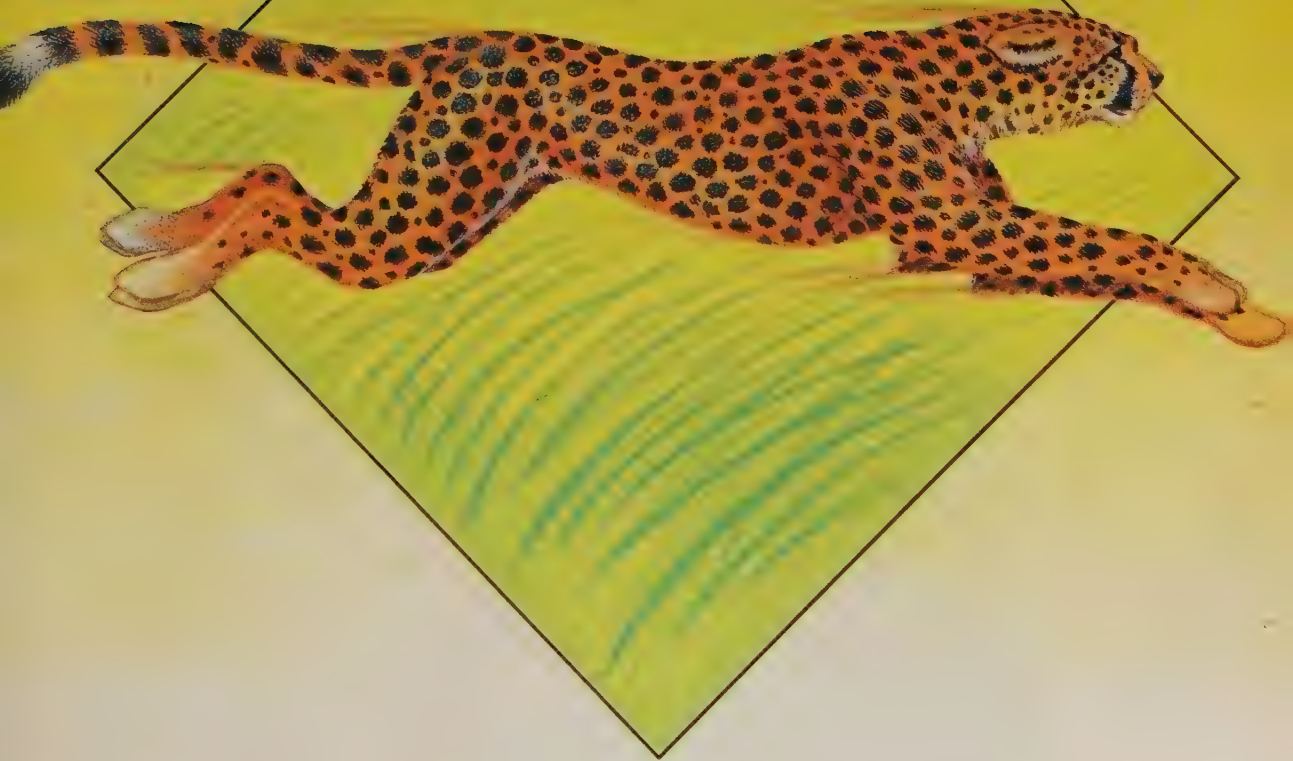
As you read, ask yourself why you're reading. Are you trying to find a fact or studying for a test? Make the way you read fit the reason for reading.





## Section Twelve

# Amazing Animals



**When is an animal more than a friend? 482–495**

**Why are animals on the move? 496–512**

**When is a horse like a rainbow? 513–523**





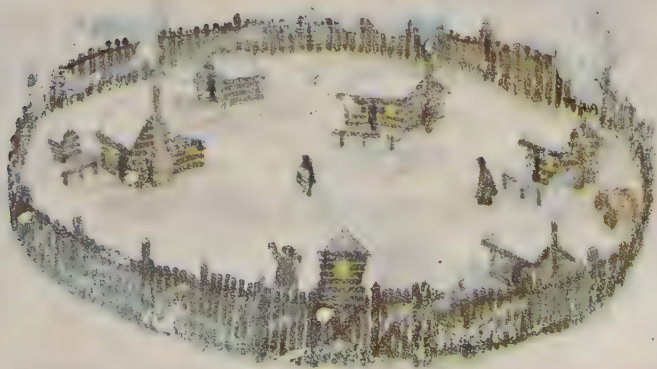
# *The Little Creatures*

There is a story told about a frontier family that walked all the way from Kentucky to the Rocky Mountains. Now walking all that way wasn't such an unusual thing to do in those days. But what was unusual was that they had an old pet crow that went right along with them and ended up saving their lives.

As the story goes, the poor family got stranded in a blizzard in the mountains. It was mighty cold and the wind was howling. And yet that old crow flew all the way back to a settlement for help.

Now the folks there knew that crow and knew she always traveled along with the family. So they followed the old crow and, sure enough, found the family still alive.

That's a wonder, it is—how the little creatures of the world can help us folks.





# Monkey Business

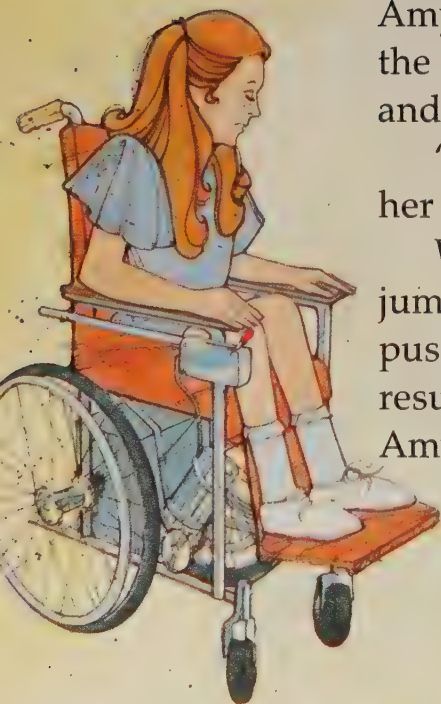
Because she was in a car accident, Marcia was paralyzed from the shoulders down. Now Marcia uses a specially equipped wheelchair. Her new friend Amy helps her with simple tasks she can no longer do.

"I'm thirsty, Amy. Will you get me something to drink?" asked Marcia.

Marcia held a small laser device between her teeth. Amy followed its beam to the refrigerator door. She lifted the door handle and watched as the light moved across the top shelf. It rested on a can of fruit juice, so Amy lifted the can from the shelf and closed the door. She poked a hole in the can's lid and put a straw in the hole.

"Thanks, Amy," Marcia said as Amy held her drink.

When Marcia finished her juice, Amy jumped expectantly to the floor. Marcia pushed a button with her chin and, as a result, a banana-flavored pellet dropped at Amy's feet.



Just then Marcia's father entered the room and asked "What are you two up to?"

"Just the usual monkey business, Dad!" said Marcia. "We've both had a little snack."

Marcia's father smiled as he looked at Amy, a capuchin monkey that had been especially trained to help Marcia.

"She deserves every bit!" he said.

"I agree," said Marcia, as she watched Amy eat her treat. "She's a real friend!"

### ***Sharpen Your Skills***

Usually there is a reason why something happens. The reason something happens is the **cause**. What happens is the **effect**. Sometimes clue words, such as *because*, *as a result*, *so*, or *since*, help you see cause and effect relationships when you read.

1. What caused Marcia to be paralyzed from the shoulders down? What clue word makes this clear?
2. What happened when Marcia pushed a button with her chin? Was what happened a cause or an effect?

The following stories are about some very special animals. As you read about them, notice what effects they have on people.

# The Tagalong

by Catherine Whittington

Peggy ran excitedly down the path toward the dock. Today was the day of the camp canoe race. As a result of her hard work, Peggy had been selected to take part.

Mrs. Henry, the canoeing instructor, was calling the girls together on the river bank. "Well, girls, it's a perfect day for the race. As many of you know, we have a tradition at the camp of sending our camp dog, Tagalong, in one of the canoes for good luck."

Peggy leaned over and whispered to her teammate, Anne, "There's no way I'm taking that silly dog in our canoe—what a pest!"

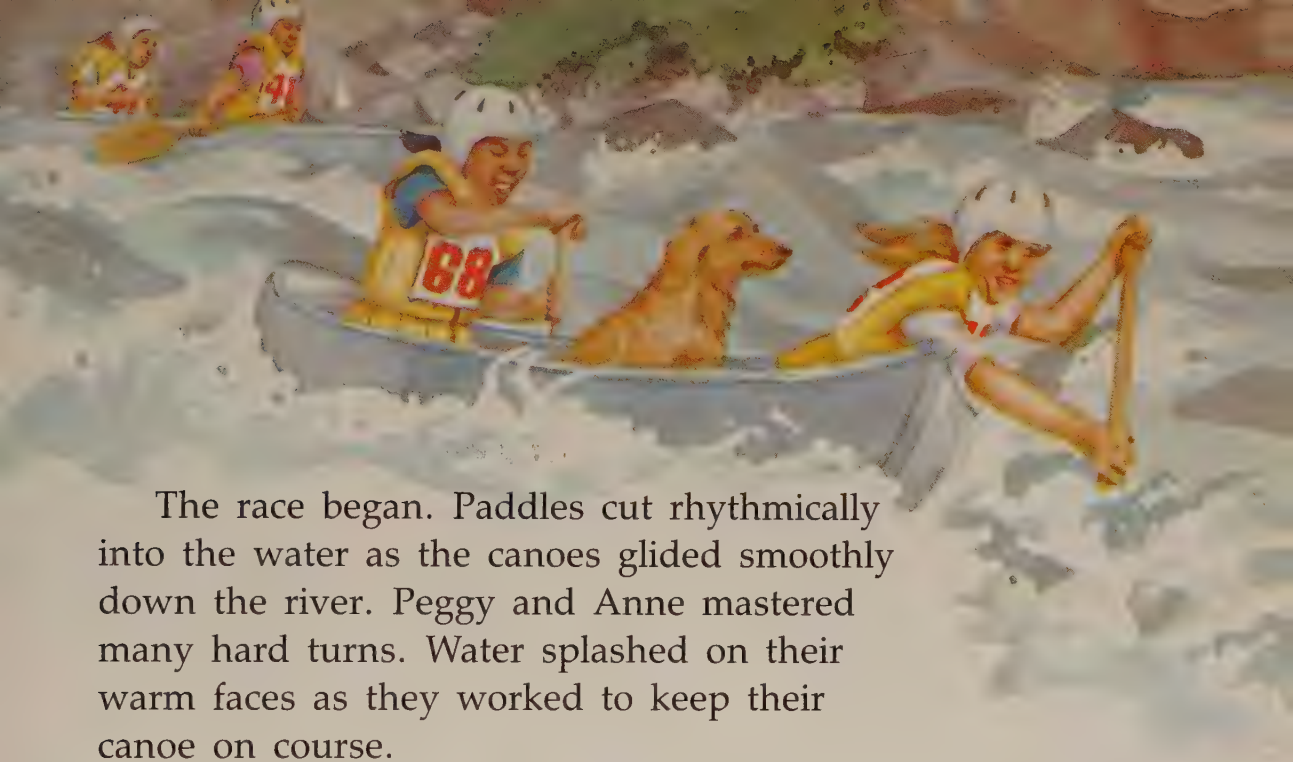
"Jan, will you draw the name of the lucky canoe out of this container?" asked Mrs. Henry.

"It's the *Glider*," said Jan.

"Our canoe!" Peggy groaned. "I don't believe it," she muttered under her breath as she and Anne led Tagalong to the dock.

"Remember, because of safety regulations each of you must wear a life vest and helmet," reminded Mrs. Henry as the girls prepared to start.





The race began. Paddles cut rhythmically into the water as the canoes glided smoothly down the river. Peggy and Anne mastered many hard turns. Water splashed on their warm faces as they worked to keep their canoe on course.

Suddenly a swift current lifted the canoe toward a large rock. Tagalong barked an alarm. "Look out!" shouted Peggy. The canoe hit the rock with a thud and capsized. Peggy tumbled into the rushing water. Anne was still clinging to the canoe as it lodged itself on the far bank. Tagalong swam by her side and jumped to shore.

"Find Peggy, Tagalong!" shouted Anne. But Tagalong had already bounded into the water and was swimming in Peggy's direction.

Peggy struggled to keep her head above the swirling water. She tried to grab hold of a rock. But, since the rock was so slippery and her hands were so numb, she could not hang on.

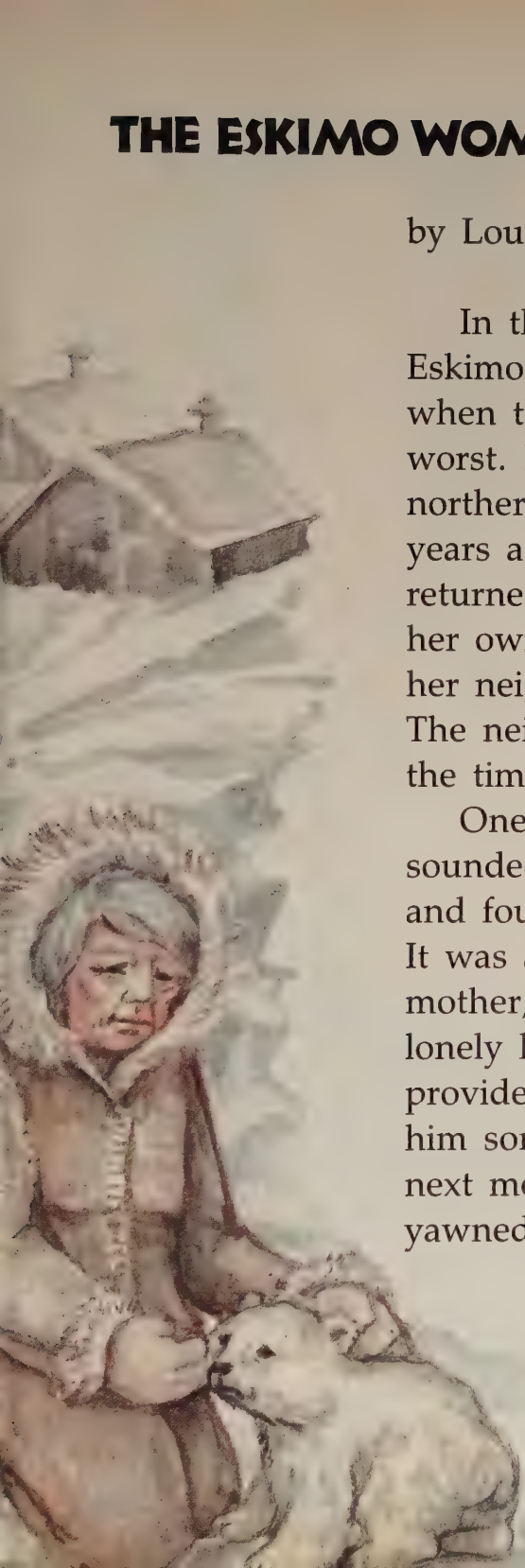
Peggy had nearly given up hope when she spotted Tagalong swimming toward her. With aching arms she reached for the dog. Tagalong grabbed Peggy's life vest between her teeth, and they fought the current together. By the time they climbed wearily up on the river bank, Anne had reached them. After resting awhile the girls and Tagalong walked slowly back to camp.

The awards for the race were presented at camp the following day. After the last prize was given, Peggy rose to speak. "I would like to present a special award," she said quietly. "The prize for 'Most Courageous' goes to a very brave friend of mine." The applause grew as Peggy hung a blue ribbon around Tagalong's neck. She bent down and nuzzled the dog's ears. "Thanks for tagging along," she whispered.



# THE ESKIMO WOMAN AND HER STRANGE SON

by Louis Untermeyer



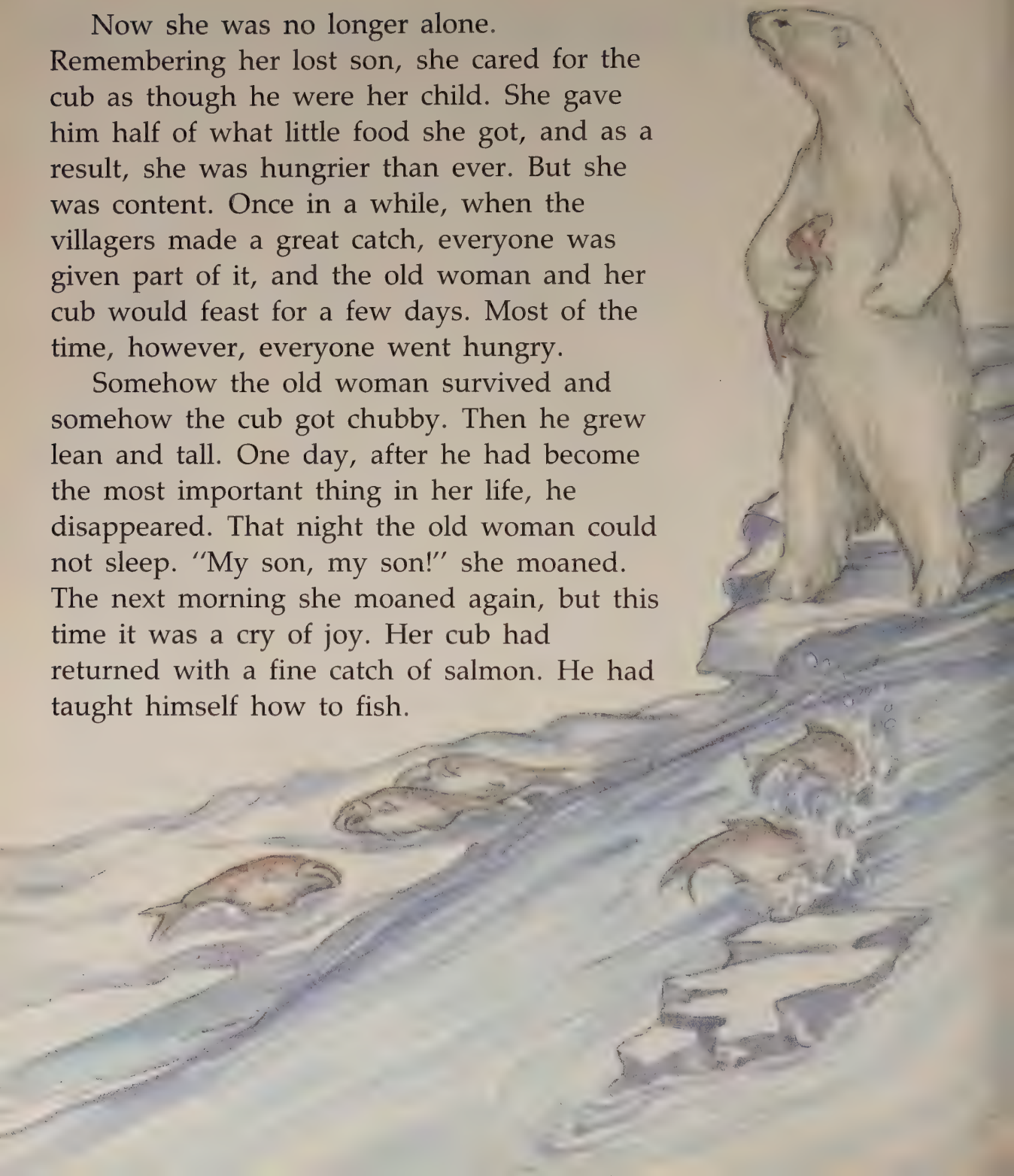
In the coldest part of the Arctic, the Eskimos remember a legend they like to tell when the long, frigid winter nights are at their worst. It is about a woman who lived alone in northernmost Alaska. Her husband had died years ago, and her only son had never returned from a long bear hunt. Unable to do her own hunting or fishing, she lived on what her neighbors gave her. It was a poor village. The neighbors had little to spare, and most of the time she was as hungry as she was lonely.

One morning she heard a weird noise that sounded like a child crying. She went outside and found a huddle of matted fur on the ice. It was a baby polar bear who had lost his mother, and his helplessness moved her lonely heart. Without thinking how she might provide for him, she carried him in and gave him some scraps she had been saving for her next meal. He licked them up eagerly, yawned, and fell asleep.



Now she was no longer alone. Remembering her lost son, she cared for the cub as though he were her child. She gave him half of what little food she got, and as a result, she was hungrier than ever. But she was content. Once in a while, when the villagers made a great catch, everyone was given part of it, and the old woman and her cub would feast for a few days. Most of the time, however, everyone went hungry.

Somehow the old woman survived and somehow the cub got chubby. Then he grew lean and tall. One day, after he had become the most important thing in her life, he disappeared. That night the old woman could not sleep. "My son, my son!" she moaned. The next morning she moaned again, but this time it was a cry of joy. Her cub had returned with a fine catch of salmon. He had taught himself how to fish.



As he grew to adulthood, he became a clever and wily hunter. No longer a cub, the young bear caught not only salmon but, once in a while, a small seal. There was now plenty for both of them. Soon there was enough to spare for the neighbors. Everyone remarked what a smart bear he was.

"My son," the widow repeated proudly.

But the good days did not last long. Suddenly the weather changed. For weeks blinding snowstorms swept over the village. Not a fish could be caught. The seals seemed to have swum away.

It was then that one of the men had a plan. "Why should we starve," he suggested, "when we have food right here? The old woman's bear has plenty of flesh beneath that fur. It should make good eating."

The others said nothing. But they plowed grimly through shoulder-high snowdrifts to the old woman's house. There they found the widow weeping. The bear had disappeared again.

The men slunk to their homes. There was nothing to say, nothing to do. The storms grew worse. There seemed no hope for the cold, starving village.

Then one day the wind shifted and the bear came back. Everyone stared at him. No one uttered a word. The widow, a little bundle of bones, was too weak to call out, but she managed a cracked smile. The bear did not stir from where he stood. But he lifted his head again and again.

"He's trying to tell us something," said one of the men.

"I think he wants us to go with him," suggested one of the others. "He seems to be pointing."

The bear shuffled off. The men followed. He led them over hummocks, across wide cracks and deep crevices. Finally he stopped. A hundred yards in front of him, there was a dark mass on the ice. As they came closer the men saw it was a huge bull seal, larger than anyone had ever caught. Here was food to last a long, long time. There was plenty of meat and an endless supply of blubber, the precious fat that would put new life into the entire village. It was a small but triumphant procession that brought back the food—and the bear. Both were welcomed, especially the bear.



"He knew what we needed," the people told each other. "And he found it for us."

"He didn't just find it," said one of the men, "he fought it for us. We owe everything to him."

"We owe everything to him," the people repeated.

The widow waited until the bear walked over and put his muzzle in her hand. Then she patted the shaggy head. "My son," she said softly.



## *Checking Comprehension and Skills*

1. Why was Peggy excited at the beginning of the story? (486)
- 2. What caused Peggy and Anne's canoe to capsize? (487)
3. How did Tagalong save Peggy? (488)
4. Peggy thought of Tagalong as a pest at the beginning of the story. How did she think of her at the end? How do you know?
5. What was the Eskimo woman's problem in the beginning of the story? (489)
- 6. What effect did caring for the polar bear have on the woman's life? (490)
7. How did the bear save the village? (492)
8. Why did the woman call the bear her son?
9. What might have happened if the Eskimo woman had not rescued the bear cub?

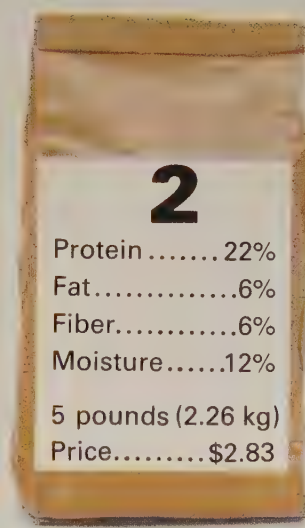
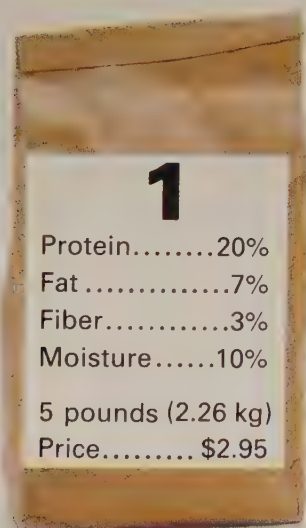
Figure out the meaning of each underlined word. Then tell what way (or ways) best helped you: context and consonants, root words and affixes, syllabication.

- 10. Somehow the old woman survived and the cub got chubby.
- 11. It was a small but triumphant procession that brought back the food.

- Cause and effect relationships
- Word Study Strategies

# Reading Information For Comparison Shopping

All pet food may look alike, but if you check the contents you may be surprised to discover that there can be differences. Which of these two pet foods has more protein? Which has more fat? Which is more expensive? Which is the better buy for the money?



Checking the contents can help you make the best choice for your pet. It can also help you get the most for your money. It's smart to check the contents of everything you buy so you can compare products and make the best choice when you shop.









## ***On the Move***

Animals are not rooted to one spot like trees—they move. A polar bear circles the North Pole and a tern flies halfway around the world. A chicken crosses the road and a squirrel leaps from tree to tree. Some animals travel thousands of miles. Others never venture more than a few miles from where they are born. But all animals move for the same reason—to stay alive. They search for food and water; they look for shelter or a mate. They escape weather that is too hot or too cold. Whether across half an acre or around half the world, animals are always on the move.

# Using What You Know

Tagalong and the polar bear used different ways to save people. You know different ways to figure out the meanings of new words.



## Sharpen Your Skills

Here are several ways you've learned to figure out the meanings of new words.

- **Root words with prefixes and suffixes**

Words often have prefixes or suffixes. You can often figure out what a word like this means by first thinking about the meaning of the root word. Then see if the prefix or suffix changes the meaning. What do the underlined words below mean?

The rabbit took the precaution of smelling the air. If enemies were near, the rabbit wanted to be a survivor.



- **Similes and metaphors** Look to see if a writer has compared two things by using a simile or metaphor. You can figure out how the two things are alike. What are the squirrel's legs compared to?

The flying squirrel stretched its legs like a parachute and glided to earth.



- **Connotations** As you read, see if a writer is trying to make you feel favorable or unfavorable about a subject. Then see if certain words make you feel that way. How does *sarled* make you feel?

The wild dog sarled at the stranger.

- **Synonyms** If you come to a word you don't know, see if there is a synonym to help you figure it out. A synonym is a word or group of words with about the same meaning as the new word. What's a synonym for *burrow*?

The rabbit ran into its burrow. Now it was safe, deep in its hole in the ground.

Use one or more of these ways to figure out what the underlined words below mean.

The moose is enormous. This very large animal can be as tall as six feet. You can't miss a moose's antlers because they look like small trees on its head. Don't be mised—the elk looks like a moose. But a moose is more majestic than the plain elk.

Remember to use what you know about words as you read about the Missouri Kid.



# The Gray Whale

Few other animals on Earth travel as far as the gray whale. Gray whales spend the summer months feeding on the bottom of the Arctic Ocean. They eat to prepare for a three-month journey south during which they will neither eat nor rest.

In autumn, ice covers the Arctic feeding grounds of the gray whales. Whales are unable to survive under the ice. They have lungs and need air to breathe. In addition, the babies of whales, called calves, could die if they were born in the rough, cold waters of the Arctic Ocean. The whales begin the long journey south along the Pacific coast.

When the whales arrive in warmer waters, the females search for a safe place to have their calves. There are protected waters near the coast of southern California where the water is calm. Here the calves are born during the winter months.

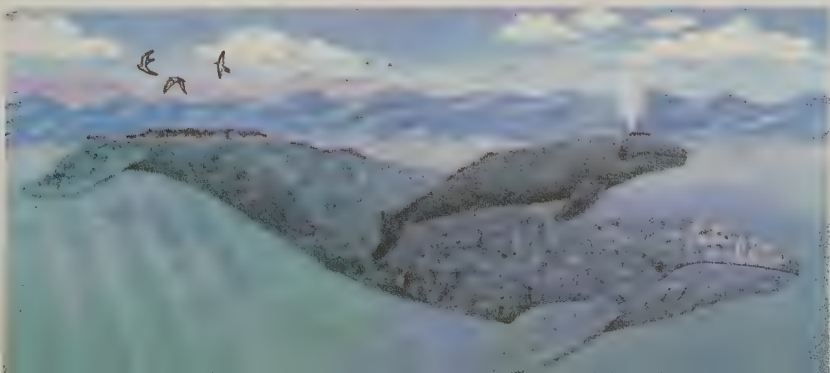
When warm spring weather returns, the gray whales move north once again to feed in Arctic waters. Traveling alone or in groups of two or three, they return to the same spot where their journey began. Once they are back in the Arctic Ocean, they will have traveled through four to six thousand miles of ocean waters.

### ***Sharpen Your Skills***

Sometimes there are no clue words to help you find cause and effects when you read. Remember that a **cause** is why something happened. An **effect** is what happened.

1. What causes female whales to journey south to have their babies?
2. What effect does warm spring weather have on gray whales?

As you read the following selection about the Missouri Kid, a moose who loved to travel, see if you can figure out what might have caused him to be on the move.





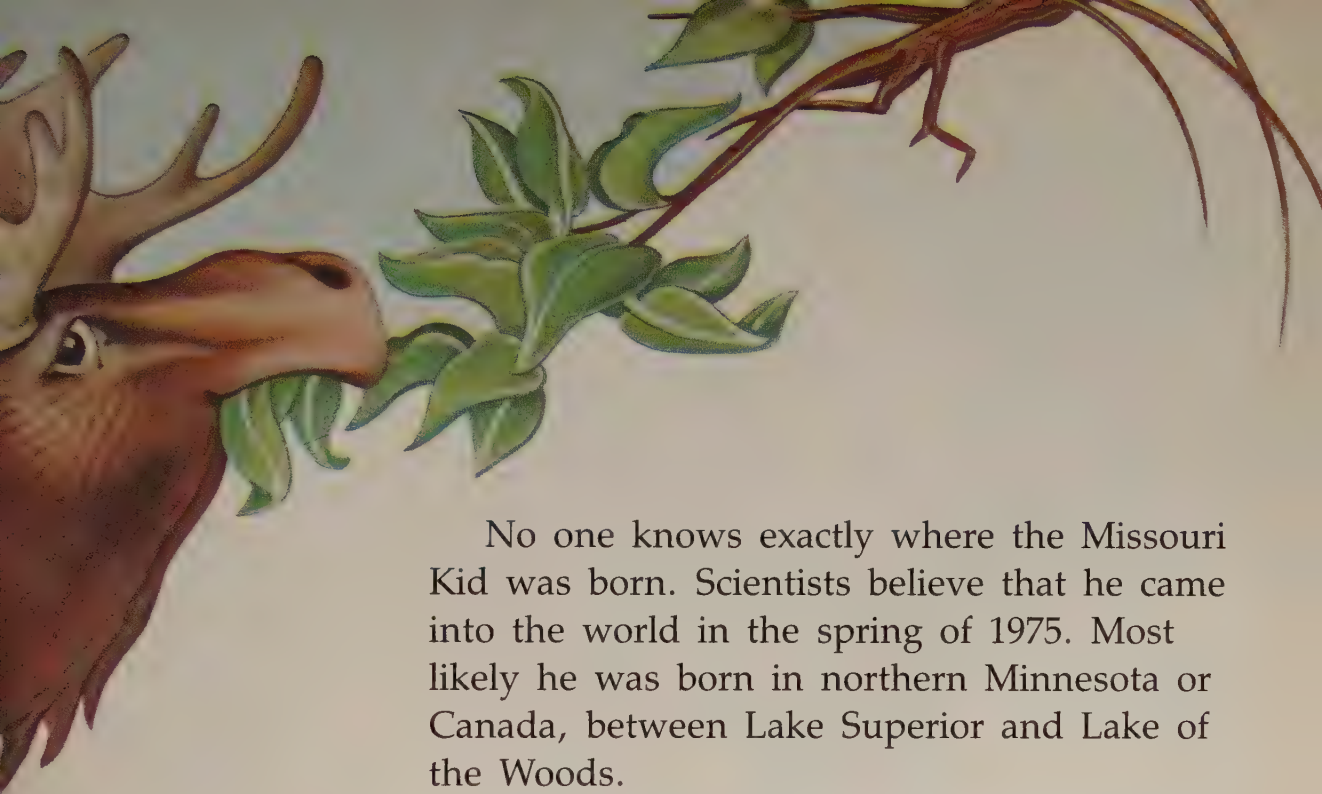


# The Missouri Kid

by Bil Gilbert

Call him the Missouri Kid. He is a moose who will long be remembered. For the Missouri Kid has journeyed farther than any other moose on record. He has roamed the Midwest, puzzling scientists and making friends wherever he goes.

Most moose live in the forests of northern United States and Canada. They eat water plants and bushes. Moose travel little. They spend their lives in a small area. The Missouri Kid is different. He makes scientists scratch their heads in confusion.



No one knows exactly where the Missouri Kid was born. Scientists believe that he came into the world in the spring of 1975. Most likely he was born in northern Minnesota or Canada, between Lake Superior and Lake of the Woods.

Moose calves are most often born in May and stay with their mothers for a year. Because the female moose give birth again the next spring, the year-old calves must leave. During that second year, the male calf becomes friends with an adult male, or bull moose, that permits the calf to travel and to eat with him. In the fall, the bull will drive the calf away. Then the young moose sets off on his own.

No one knows for sure if this is what happened to the Missouri Kid. Perhaps he was frightened by an old bull, or maybe he was looking for adventure. Whatever the reason, the Kid began trekking south through central Minnesota.





Lake of the Woods

CANADA

Lake Superior

MINNESOTA

MICHIGAN

WISCONSIN

Lake Michigan

Mississippi River

● Emmetsburg

IOWA

Des Moines ★

ILLINOIS

Hannibal ●

Jacksonville ●

Louisiana ●

Bowling Green ●

MISSOURI



## The Journey of the Missouri Kid

● Cities and Towns

★ State Capital



Soon the Kid left Minnesota behind, and was seen in the woods along the upper Des Moines River near the town of Emmetsburg, Iowa. Folks came out to the river to see this odd beast. Many of them had never seen a moose before. Moose seldom got this far south. Those that did stayed for a short time and then disappeared.


The Missouri Kid was now full-grown. On his head was a huge rack of antlers. He roamed near the river, contentedly chewing river willows. He stayed near Emmetsburg for about nine months, and then began to move south, following the banks of the Des Moines River.

Why did he start traveling again? Was he bothered by dogs, or did the flies buzz too close? Was he searching for the right mate? Did he become bored and decide to head south? No one knows for sure, but the Kid set off again.

Soon the Kid was spotted 150 miles<sup>1</sup> south of Emmetsburg. People wondered what he would do next, for he was headed toward Des Moines, Iowa, a city area with a population of 200,000 people!

---

1. about 241 km



In less than a week the Missouri Kid was seen several miles south of Des Moines. That meant that somehow the Missouri Kid had passed around Des Moines without being reported as seen. "The most surprising thing," said Lee Gadfelter, a deer expert, "is that he must have crossed some interstates and a lot of other roads with heavy traffic." Yet no one reported seeing him. And by now the Kid weighed 1000 pounds.<sup>1</sup> He had a four-foot<sup>2</sup>-high rack of antlers. Perhaps some people did see him, but did not believe what they saw—a bull moose jogging along Interstate 80!

For several months the Kid was not spotted very often. He had now broken all known records for "long-distance moose." He was hundreds of miles from the nearest moose herd; and he was not far from the Iowa-Missouri state line.

Wayne Porath of the Missouri Department of Conservation, and his friend, wildlife expert Paul Jeffries, began to track the Missouri Kid. They found that the Kid fed on wild roses, as well as low-growing winter wheat.

They also learned that the Kid had a problem. His long legs had been very helpful

---

1. about 454 km      2. about 122 cm

when he went into deep streams to eat water plants. But now those long legs were not helpful. Because they were so long, the Kid couldn't reach the low-growing winter wheat. Soon Jeffries reported that the Kid solved his problem. "He just got down on his knees," said Jeffries. "It was the first time in my life that I ever tracked an animal that was walking across a field on his knees."

Jeffries and Porath were afraid that the Missouri Kid might be harmed. So they appeared on television and wrote to newspapers to tell people in the area that a harmless moose was roaming about and that it was against the law to hurt it. Their campaign worked. Porath said, "We had a lot of calls and letters from people who'd seen him and were pleased and excited about it, and others from people who wanted to know where they could go to see him."

A citizen of Jacksonville, Missouri, Harold Volle, reported seeing the Missouri Kid. Actually he saw the top of the Kid's antlers over the rim of a ravine. "The antlers came toward me and got bigger, and I thought there's not a deer alive that's going to stick up that high. That's the Missouri moose down there in Mud Creek!

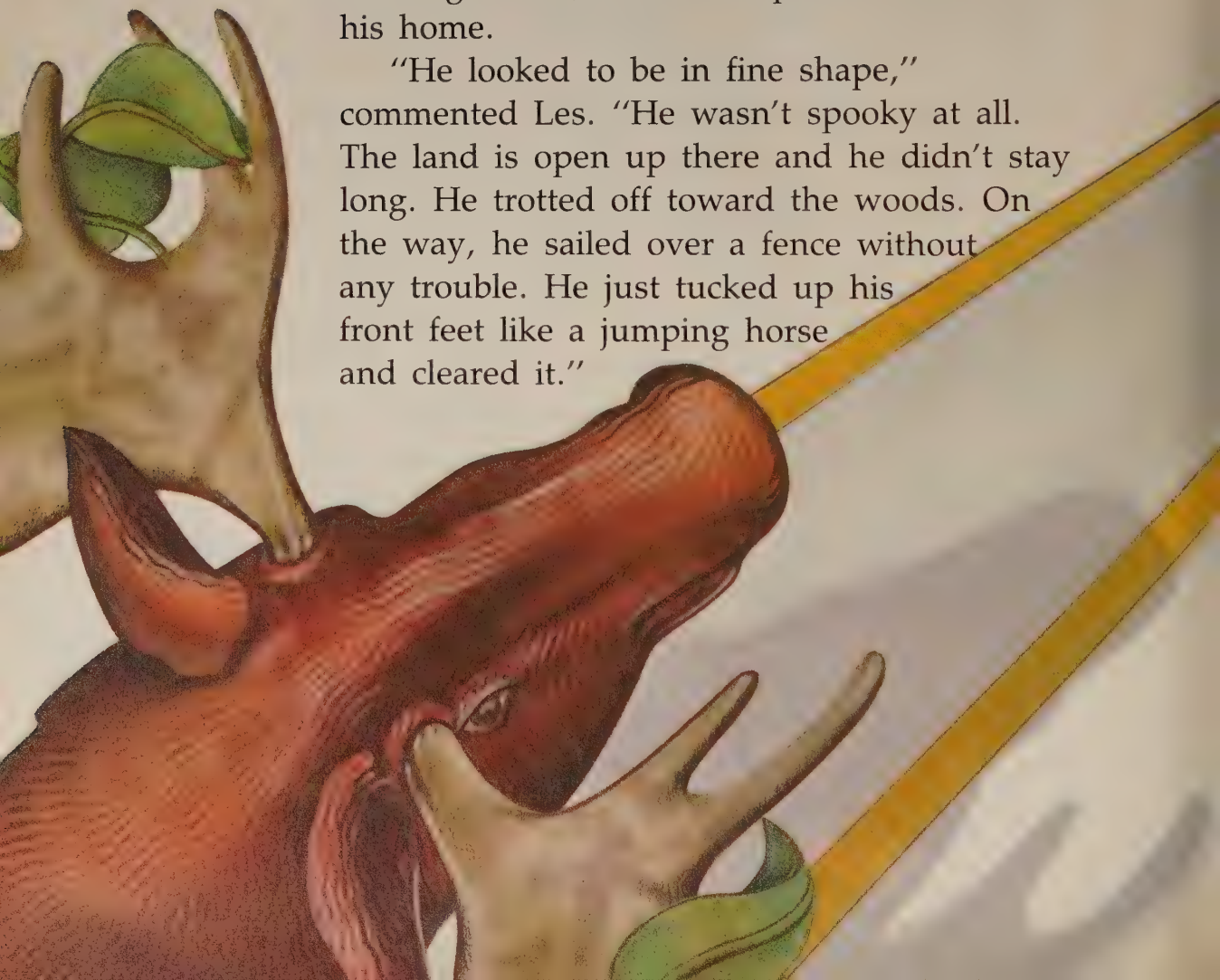




"He saw me all right, but he wasn't a bit scared. He just stood there flopping his ears, feeding a little in the grass. I must have watched him thirty minutes. Then I took off my hat and started waving at him. After a while, he just ambled away."

Soon the Missouri Kid was traveling again, and before long he roamed south of Clarence, Missouri. Les Brown, a wildlife officer from Bowling Green, Missouri, spied the Kid near his home.

"He looked to be in fine shape," commented Les. "He wasn't spooky at all. The land is open up there and he didn't stay long. He trotted off toward the woods. On the way, he sailed over a fence without any trouble. He just tucked up his front feet like a jumping horse and cleared it."





The Missouri Kid roamed for several weeks in the Hannibal-Louisiana area. Once he made an appearance at a grade school in Louisiana, Missouri. The children were waiting for the bus after school when suddenly, there he was. "He walked slowly across the field, right in front of the school," said the principal. "He was a beautiful animal. Probably when these kids are old and have forgotten my name and most of their classmates', they will remember the day when a moose came to their school."

From last reports the Missouri Kid is in the brush country around Hannibal, Missouri. Many people feel that even an animal as large as the Kid could hide out in that area for a long time.

The Missouri Kid has done things no one thought possible for a moose. Because of his experiences he is the best educated as well as the most traveled moose in the world.

## Checking Comprehension and Skills

1. Where do most moose live? (502)
- 2. What might have caused the Missouri Kid to leave Minnesota and begin to travel south? (503)
3. What was so amazing about the moose showing up south of Des Moines? (506)
- 4. Why did the Kid kneel down to eat winter wheat? (507)
5. Why did Jeffries and Porath want to get publicity for the Missouri Kid? (507)
6. How do you think the Missouri Kid got his name?
7. Do you think the Missouri Kid is the best educated moose in the world? Why do you think as you do?
- 8. Reread the first complete paragraph on page 507. What is a *campaign*? What other words in the paragraph helped you?
- 9. Read the following sentences. Which underlined word has a more favorable meaning?
  - a. We saw a moose go down Interstate 80.
  - b. We saw a moose jog down Interstate 80.

- Cause and effect relationships
- Word Study Strategies



A detailed illustration of wild geese in flight, rendered in a style reminiscent of a watercolor or soft pencil drawing. The geese are shown in various stages of flight, with their wings spread wide, revealing intricate feather patterns. The color palette is muted, featuring earthy browns, greys, and soft oranges, with some areas of the wings highlighted in a pale, almost white, tone. The background is a light, textured wash of color, suggesting a vast, open sky. The overall composition is dynamic, with the geese moving from the upper left towards the lower right, creating a sense of movement and direction.

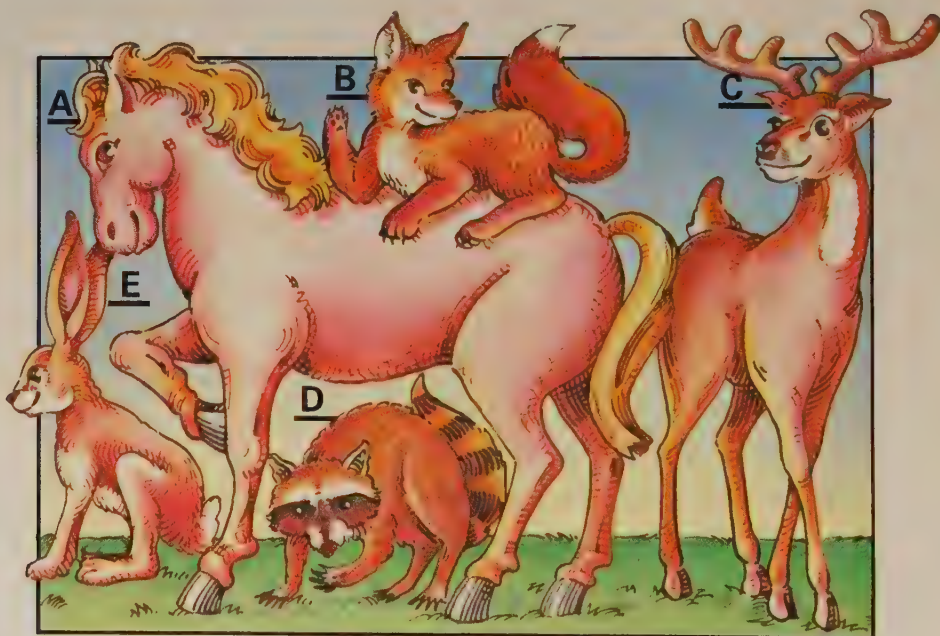
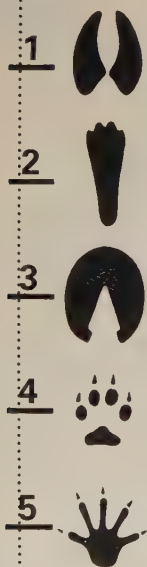
## *Something Told the Wild Geese*

by Rachel Field

Something told the wild geese  
It was time to go.  
Though the fields lay golden  
Something whispered,—“Snow.”  
Leaves were green and stirring,  
Berries, luster-glossed,  
But beneath warm feathers  
Something cautioned,—“Frost.”  
All the sagging orchards  
Steamed with amber spice,  
But each wild beast stiffened  
At remembered ice.  
Something told the wild geese  
It was time to fly,—  
Summer sun was on their wings,  
Winter in their cry.

# Making Tracks

Animals get from place to place in many ways. Eagles fly, dolphins swim, snakes slither, and circus animals take the train! But most animals on the move travel by foot. When the ground is soft or covered with snow, they leave clear tracks behind. How many animal "footprints" can you recognize? Try to match these animals with their tracks.



Answers: 1. C, 2. E, 3. A, 4. B, 5. D



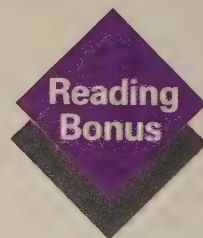
## *The Rainbow-Colored Horse*

by Pura Belpré

A farmer named Tano<sup>1</sup> had three sons. Carlos<sup>2</sup> was strong, Pedro<sup>3</sup> was clever, and the youngest son, Pio,<sup>4</sup> was quiet and gentle.

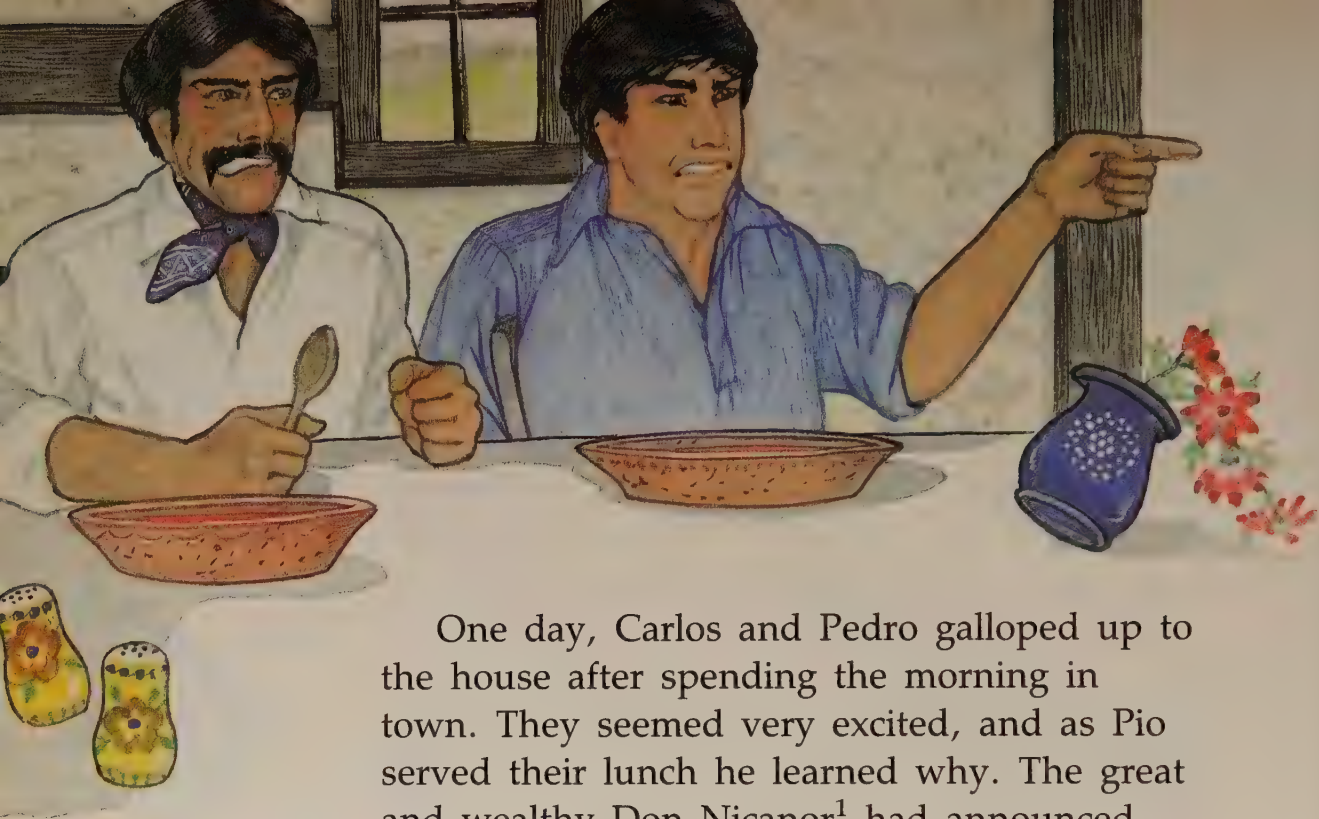
One day Tano discovered that his beautiful maize field had been trampled during the night. That night Carlos and Pedro watched the field, but both fell asleep. Again the maize was trampled. The next night young Pio watched. He stayed awake and saw a wonderful sight. An enchanted, rainbow-colored horse galloped through the field. Pio caught the horse, who promised never to trample the maize again if Pio would let him go. Pio agreed. The rainbow-colored horse granted Pio three wishes in return for his kindness.

Some time later Tano died. Pio labored hard on the farm and in the house, while his brothers ate, slept, and rode their horses to town.



1. Tano (tä'nō) 2. Carlos (kär'lōs) 3. Pedro (pā'drō) 4. Pio (pē'ō)





One day, Carlos and Pedro galloped up to the house after spending the morning in town. They seemed very excited, and as Pio served their lunch he learned why. The great and wealthy Don Nicanor<sup>1</sup> had announced that it was time for his daughter to marry. But Don Nicanor was an unusual man, and the husband of Leonor<sup>2</sup> was to be chosen in an unusual way. That was all Pio's brothers could discuss as they ate their lunch.

"I know I can pass Don Nicanor's tests," boasted Carlos.

"What are the tests?" asked Pio, who was ladling the soup.

"That doesn't concern you," said Carlos, "and my soup is cold."

"So is mine," said Pedro. "Go heat it up!"

---

1. Don Nicanor (dôn' nē'kă nôr') 2. Leonor (lā'ō nôr')

While he was in the kitchen pretending to warm the soup—which was not actually cold at all—Pio listened to his brothers. The man who could ride his horse at full gallop past Leonor's balcony and toss a rubber ball into her lap three days in a row would win Leonor's hand in marriage.

Carlos and Pedro decided to try their luck immediately. They put on their Sunday suits and rode off. As soon as they had disappeared from sight, Pio went to the patio and called: "Aqui, mi caballito<sup>1</sup>—Come here, my little horse." In an instant there was a puff of rainbow-colored smoke and out stepped the little horse.

"What do you want, Pio?"

"I want to marry Leonor, Don Nicanor's beautiful daughter. But to do so I must ride at full gallop past her balcony three times. And each time I must toss a little rubber ball into her lap. Can you help me?"

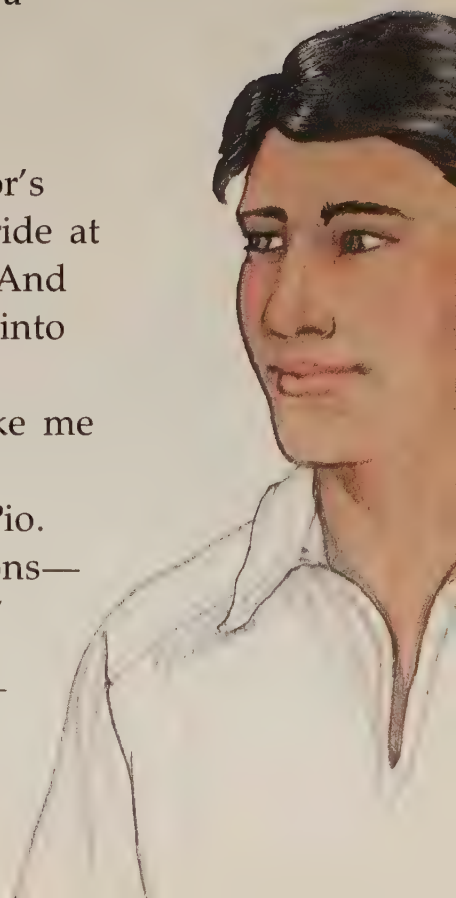
"I can and I will, but only if you make me a promise."

"What type of a promise?" inquired Pio.

"You must promise not to ask questions—not one question—no matter what I do."

---

1. Aqui mi caballito (ä kē' mē kă'bä yē'tō)



"I promise," responded Pio.

And suddenly Pio found himself magnificently dressed, seated on the little horse's back, grasping a rubber ball in his hand.

Swift as the wind they galloped and reached the town, just as Carlos and Pedro started to ride past Leonor's balcony. Carlos rode first, but when he tossed his rubber ball, his strong arm threw it so hard that it bounced off the wall above Leonor's head.

"Ah ha!" said clever Pedro to himself, "I shall not throw my ball so hard." As he raced by he tossed his ball, but he did not toss it hard enough and it bounced at Leonor's feet and rolled off the balcony.

Suddenly an enormous shout arose from the crowd, for galloping toward the balcony, at lightning speed, came the rainbow-colored horse with a richly dressed rider in the saddle. As they sped past the balcony the rider tossed the ball very gently into Leonor's lap.

The crowd cheered. Don Nicanor leaped to his feet to welcome the mysterious rider. But the rainbow-colored horse did not stop. It kept on running until it reached Pio's house.





Pio wanted very much to ask the little horse why he had galloped straight home in such a hurry, but he remembered his promise and kept completely silent.

"Step down, Pio," said the little horse and before Pio's feet touched the ground, he disappeared in a puff of rainbow-colored smoke. Pio was once again dressed in his working clothes.

By and by he heard his brothers ride into the yard. They strode in the house, slamming the door behind them.

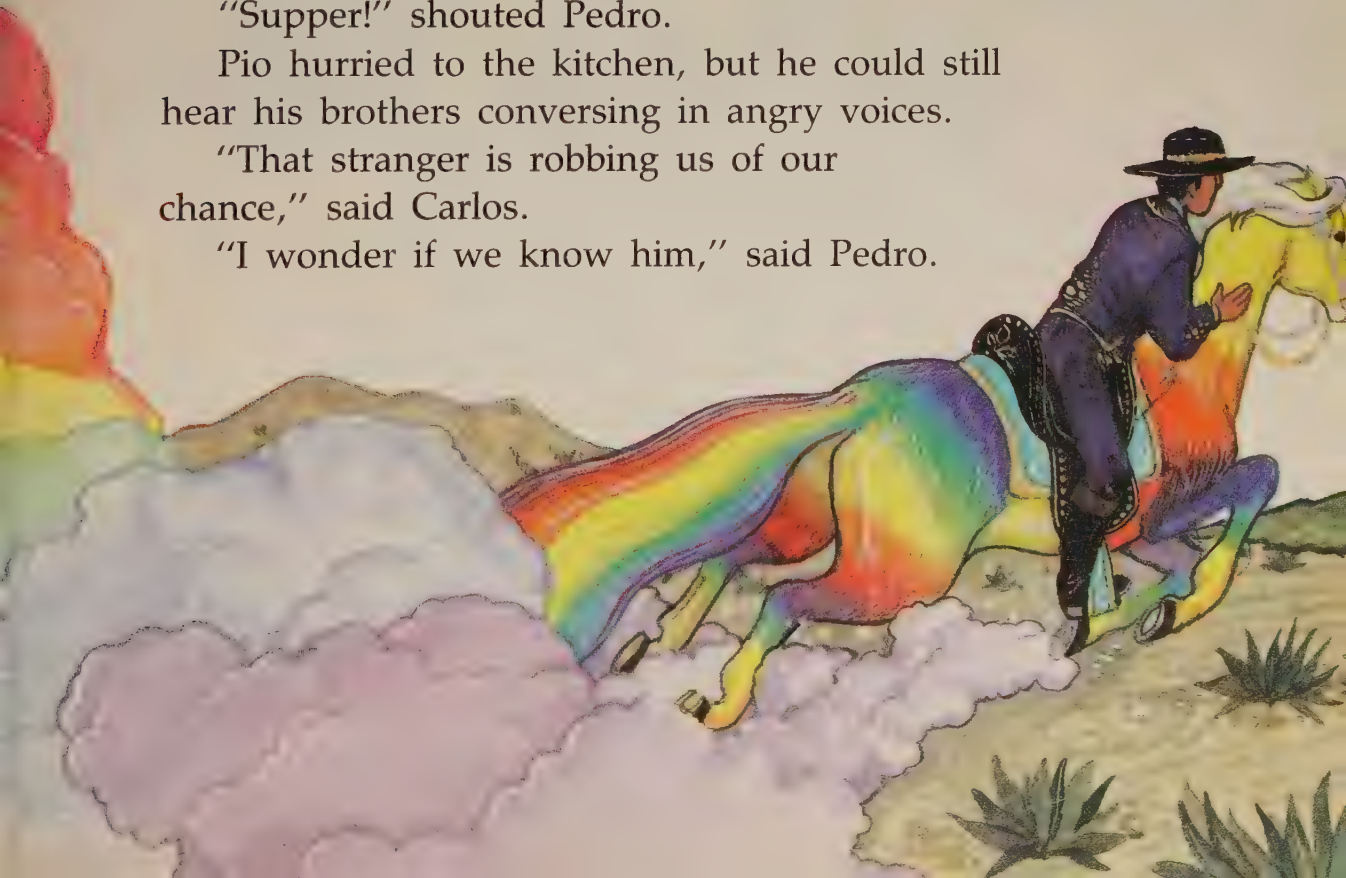
"Supper!" demanded Carlos.

"Supper!" shouted Pedro.

Pio hurried to the kitchen, but he could still hear his brothers conversing in angry voices.

"That stranger is robbing us of our chance," said Carlos.

"I wonder if we know him," said Pedro.



The following morning the two brothers rode off to try their luck once more. No sooner had they left when Pio went out to the patio and called: "Aqui, mi caballito—Come here, my little horse." Once again, out of a puff of rainbow-colored smoke, stepped the little horse. Pio repeated what he wanted and the little horse answered, "Today you must go dressed more richly than yesterday." And again, Pio stood magnificently dressed, holding a rubber ball in his hand.

"Climb up," commanded the little horse, and off they went, faster than the wind itself.

The town was overflowing with people who had heard about the rainbow-colored horse and the mysterious rider. At one end of the street young men on horseback were lined up awaiting their turns to ride past the balcony. One by one they galloped down the street throwing rubber balls every which way except into Leonor's lap. Carlos and Pedro were way back near the end of the line. When their turns came, Carlos galloped off first. Remembering his error of the day before, he threw the ball very weakly—too weakly. It landed at Leonor's feet. Then Pedro, remembering his poor throw, gave the ball a hard toss as he galloped past. But it hit the wall above Leonor's head and bounced into the crowd.



Then, out of nowhere, the rainbow-colored horse and the mysterious rider appeared. Like a flash they sped past the balcony and once again Pio tossed the ball gently into Leonor's lap. The crowd roared its approval and Don Nicanor raised his arms to halt the rider, but the little horse never stopped till it reached Pio's house.



"Step down, Pio," it commanded, and before Pio could even say thank you, it had disappeared in a cloud of rainbow-colored smoke. Once again in his working clothes, Pio shook his head. Why was the little horse running away from town in such a hurry? But he had promised not to ask even one question. A promise is a promise, he told himself, and he went into the house.

After a while Pedro and Carlos came riding into the yard. The gloomy looks on their faces reflected their distress.

"I would have succeeded if my saddle hadn't slipped," growled Carlos.

"I would have done it if my stirrup had held," grumbled Pedro.

"Why does that mysterious stranger keep coming, then riding away? I wonder who he is," said Carlos.

"Do you think he is someone we know?" asked Pedro.

The following day the two brothers sped off again. Pio watched them until they disappeared from sight. Then he went to the patio and called: "Aqui, mi caballito—Come here, my little horse."

The little horse appeared at once. Pio told him what he wanted.

"Today you shall go dressed as you are," said the little horse. "Climb up. We must be off."

If the little horse had run fast the first day and faster the second, today it almost flew. It flew so fast that all anyone could see was a blur of color. As it passed Leonor's balcony Pio tossed the ball very gently into Leonor's lap. Then he clutched the reins for the ride home. But the little horse did not run away this time. It circled back to the spot where Don Nicanor stood waiting.

Cries of Bravo!<sup>1</sup> and Ole!<sup>2</sup> filled the air and people threw their hats into the air. But Pio paid no attention. He was listening intently to the little horse.

"Pio, now we must part. Because I was an enchanted horse, because I helped you three times, but most of all because you kept your promise, the spell that was put upon me has been broken. I am free to return to the place I came from."

As the little horse spoke, a rainbow-colored mist swirled about them and when it lifted, the little horse had vanished. A moment later a beautiful rainbow spread across the sky and Pio found himself between his two brothers. They could not believe their eyes.

---

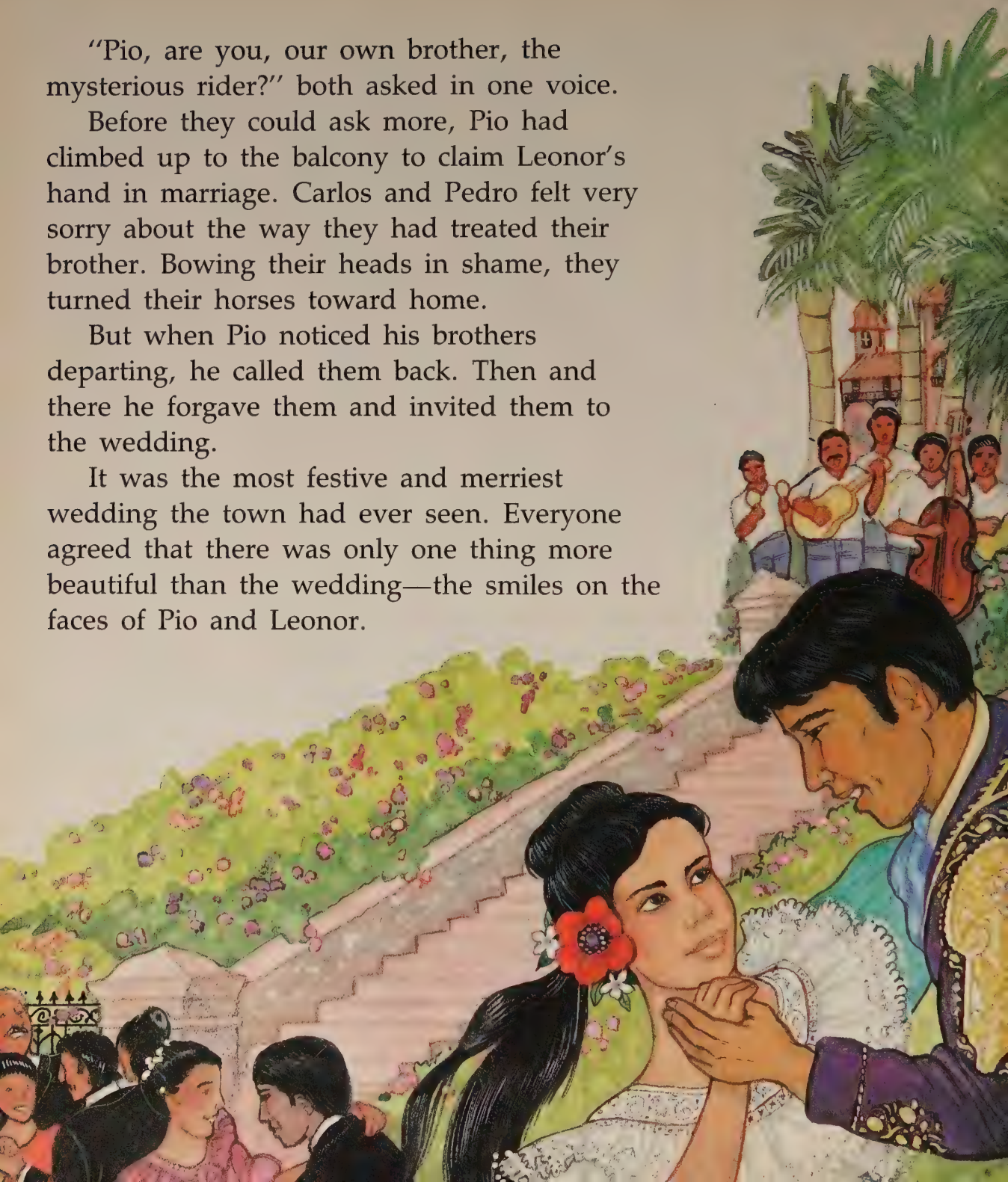
1. Bravo (brä'vō)      2. Ole (ō lā')

"Pio, are you, our own brother, the mysterious rider?" both asked in one voice.

Before they could ask more, Pio had climbed up to the balcony to claim Leonor's hand in marriage. Carlos and Pedro felt very sorry about the way they had treated their brother. Bowing their heads in shame, they turned their horses toward home.

But when Pio noticed his brothers departing, he called them back. Then and there he forgave them and invited them to the wedding.

It was the most festive and merriest wedding the town had ever seen. Everyone agreed that there was only one thing more beautiful than the wedding—the smiles on the faces of Pio and Leonor.





## Books to Read

**Sunken Treasure** by Edward Packard. Bantam

Dive right into this adventure of a young girl who finds an old map and goes to search for sunken treasure on Tama Island. Or does she? It's up to you! What happens depends on the choices you make and the different pages you choose to read.

**Roberto Clemente** by Kenneth Rudeen.  
T. Y. Crowell

This book tells you about a very special person—Roberto Clemente—a skinny boy who grew up to be chosen for the National Baseball Hall of Fame.

**The Winged Colt of Casa Mia**  
by Betsy Byars. Avon

Charles is excited when he goes to Texas to meet his Uncle Coot who was a famous movie stuntman. But feelings of disappointment grow between them. Then an amazing animal, a colt with wings, is born. Read to find out how the winged colt brings Charles and Uncle Coot together.



# Glossary

## How to Use the Pronunciation Key

After each entry word in this glossary, you'll find a special spelling, called the **pronunciation**. It shows how to say the word. The word is broken into syllables and respelled with letters and signs called **symbols**. You can look these up in the **pronunciation key** to see what sounds they stand for.

This dark mark (ˈ) is called the **primary accent**. It follows the syllable you say with the most force. This lighter mark (ː) is the **secondary accent**. Say the syllable it follows with medium force. Syllables without marks are said with least force.

1. Which means "having no faults"?  
(pərˈfikt) (pər fɛktː)
2. Which swings on a trapeze?  
(asˈtrə nôt) (akˈrə bat)

The contents of the Glossary entries in this book have been adapted from Scott, Foresman Beginning Dictionary, Copyright © 1983 Scott, Foresman and Company; and Scott, Foresman Intermediate Dictionary, Copyright © 1983 Scott, Foresman and Company.

<b>a</b>	hat, cap	<b>o</b>	hot, rock
<b>ā</b>	age, face	<b>ō</b>	open, go
<b>ä</b>	father, far	<b>ô</b>	order, all
		<b>oi</b>	oil, voice
<b>b</b>	bad, rob	<b>ou</b>	house, out
<b>ch</b>	child, much		
<b>d</b>	did, red	<b>p</b>	paper, cup
		<b>r</b>	run, try
<b>e</b>	let, best	<b>s</b>	say, yes
<b>ē</b>	equal, be	<b>sh</b>	she, rush
<b>èr</b>	term, learn	<b>t</b>	tell, it
		<b>th</b>	thin, both
<b>f</b>	fat, if	<b>th</b>	then, smooth
<b>g</b>	go, bag		
<b>h</b>	he, how	<b>u</b>	cup, butter
		<b>ù</b>	full, put
<b>i</b>	it, pin	<b>ü</b>	rule, move
<b>ī</b>	ice, five		
		<b>v</b>	very, save
<b>j</b>	jam, enjoy	<b>w</b>	will, woman
<b>k</b>	kind, seek	<b>y</b>	young, yet
<b>l</b>	land, coal	<b>z</b>	zero, breeze
<b>m</b>	me, am	<b>zh</b>	measure, seizure
<b>n</b>	no, in		
<b>ng</b>	long, bring	<b>ə</b>	represents: a in about e in taken i in pencil o in lemon u in circus

## A a

**ac • cus • tom** (ə kus'təm), make familiar by use or habit; get used to: *When traveling you can accustom yourself to almost any kind of food.* *verb.*

**ac • ro • bat** (ak'rə bat), person who can swing on a trapeze, turn handsprings, walk a tightrope, or do other feats of bodily skill and strength. *noun.*



acrobat

**ad • mire** (ad mīr'), **1** look at or think of with wonder or pleasure: *We all admired the beautiful painting.* **2** think highly of; respect: *Everyone admired the explorer's courage.* *verb.* **ad • mired**, **ad • mir • ing.**

**ad • ver • tise** (ad'vər tīz), **1** give public notice of in a newspaper, on the radio, or on television: *Manufacturers advertise products that they wish to sell.* **2** seek to sell goods by advertising: *It pays to advertise.* *verb.* **ad • ver • tised**, **ad • ver • tis • ing.**

**a • li • as** (ā'lē əs), **1** name other than a person's real name used to hide who he or she is: *The spy's real name was Harrison, but he sometimes went by the alias of Johnson.* **2** otherwise called: *The thief's name was Jones, alias Williams.* **1 noun, plural a • li • as • es; 2 adverb.**

**al • li • ga • tor** (al'ə gā'tər), a large reptile with a rather thick skin. It is like the crocodile but has a shorter and flatter head. Alligators live in the rivers and marshes of the warm parts of America and China. *noun.*

**am • bu • lance** (am'byə ləns), automobile, boat, or aircraft equipped to carry sick or wounded persons, usually to a hospital. *noun.*

**an • ces • tor** (an'ses'tər), person from whom one is directly descended. Your grandfathers, your grandmothers, and so on back, are your ancestors. *noun.*

a hat	i it	oi oil	ch child	ə = { a in about e in taken i in pencil o in lemon u in circus
ā age	ī ice	ou out	ng long	
ä far	o hot	u cup	sh she	
e let	ō open	ū put	th thin	
ē equal	ô order	û rule	th then	
ēr term			zh measure	

**an • cient** (ān'shənt), of or belonging to times long past: *ancient customs, an ancient art.* *adjective.*

**ap • pear • ance** (ə pīr'əns), act of coming in sight: *His appearance in the doorway was welcomed with shouts.* *noun.*

**ap • plause** (ə plōz'), approval shown by clapping the hands or shouting: *Applause for the singer's good performance rang out from the audience.* *noun.*

**ar • chae • ol • o • gist** (ār'kē ol'ə jīst), person who is an expert in archaeology. *noun.*

**ar • chae • ol • o • gy** (ār'kē ol'ə jē), the study of the people, customs, and life of ancient times. Archaeologists study buildings, tools, pottery, weapons, and other objects in order to find out how people lived in the past when there were few or no written records. *noun.*

**as • sign** (ə sīn'), give as a task to be done: *The teacher assigned the next ten problems.* *verb.*

**as • sign • ment** (ə sīn'mənt), something assigned: *Today's assignment in arithmetic consists of ten problems.* *noun.*

**as • ton • ish • ment** (ə ston'ish mənt), great surprise; sudden wonder; amazement. *noun.*



alligator—about 10 feet (3 meters) long

**as • tron • o • mer** (ə stron'ə mər), person who is an expert in astronomy. *noun.*



# astronomy | binoculars

**as • tron • o • my** (ə strɒn'ə mē), science that deals with the sun, moon, planets, stars, and other heavenly bodies. *noun*.

**ath • lete** (ath'lēt'), person trained in exercises of physical strength, speed, and skill. Baseball players, runners, boxers, and swimmers are athletes. *noun*.

**at • mo • sphere** (at'mə sfɪr), the air that surrounds the earth. *noun*.

**a • tom • ic** (ə tɒm'ɪk), 1 of or having to do with atoms: *atomic research*. 2 using atomic energy: *an atomic submarine*. *adjective*.

**at • tempt** (ə tempt'), 1 make an effort; try: *I will attempt to reply to your question*. 2 a putting forth of effort to accomplish something: *an attempt to climb Mount Everest*. 1 verb, 2 noun.

**at • ten • tion** (ə ten'shən), 1 act or fact of giving thought or care to: *Pay attention to the teacher*. 2 notice or consideration: *She called my attention to the problem*. *noun*.

**au • di • ence** (ɔ'di'əns), 1 people gathered in a place to hear or see: *The audience at the theater enjoyed the play*. 2 any persons within hearing: *That television program has an audience of over ten million people*. *noun*.

**a • ware** (ə wer' or ə war'), having knowledge; noticing what is going on: *I was too sleepy to be aware how cold it was*. *She was not aware of her danger*. *adjective*.

**we • some** (ð'səm), causing great fear or wonder: *The majesty of the mountains was awesome*. *The great waterfall was an awesome sight*. *adjective*.

**band**<sup>2</sup> (band), 1 a thin, flat strip of material for binding, trimming, or some other purpose: *The oak box was strengthened with bands of iron*. 2 a particular range of wavelengths in radio broadcasting. *noun*.

**bank • rupt** (bang'krʌpt), 1 person who is declared by a court of law to be unable to pay his or her debts. 2 unable to pay one's debts. 3 make bankrupt: *Foolish expenditures will bankrupt him*. 1 noun, 2 adjective, 3 verb.

**bar • ren** (bar'en), 1 not able to produce much: *a barren desert*. 2 without interest; dull. *adjective*.

**bel • low** (bel'ō), 1 make a loud, deep noise; roar as a bull does. 2 a loud, deep noise; roar. 3 shout loudly, with anger, with pain, or with fear. 1,3 verb, 2 noun.

**bil • lion** (bil'yən), 1 (in the United States, Canada, and France) one thousand millions; 1,000,000,000. 2 (in Great Britain and Germany) one million millions; 1,000,000,000,000. *noun*.

**bi • noc • u • lars** (bə nok'yə lərz), a double telescope made for use with both eyes. Field glasses are binoculars. *noun plural*.



*Binoculars* comes from Latin *bini*, meaning "two at a time," and *oculus*, meaning "eye."

## B b

**bal • co • ny** (bal'kə nē), 1 an outside platform enclosed by a railing, that juts out from an upper floor of a building. 2 a projecting upper floor in a theater, hall, or church with seats for part of the audience. *noun, plural bal • co • nies*.

**bal • let** (bal'ā), 1 a dance by a group on a stage. A ballet usually tells a story through the movements of the dancing and the music. 2 the dancers: *The Royal Ballet will soon perform in our city*. *noun*.

**bam • boo** (bam bū'), a woody or treelike grass with a very tall, stiff, hollow stem that has hard, thick joints. Bamboo grows in warm regions. Its stems are used for making canes, fishing poles, furniture, and even houses. *noun, plural bam • boos*.

**band**<sup>1</sup> (band), 1 number of persons or animals joined or acting together: *A band of robbers held up the train*. 2 group of musicians performing together: *The school band played several marches*. *noun*.



bamboo

**black • smith** (blak'smith'), person who makes things out of iron by heating it in a forge and hammering it into shape on an anvil. Blacksmiths mend tools and shoe horses. *noun*.

**bliz • zard** (bliz'ərd), a blinding snowstorm with a very strong wind and very great cold. *noun*.

**blub • ber** (blub'ər), fat of whales and some other sea animals. The oil obtained from whale blubber is burned in lamps. *noun*.

**botch** (boch), spoil by poor work: *I botched my essay and had to rewrite it.* *verb*.

## C c

**ca • ble** (kā'bəl), **1** a strong, thick rope, usually made of wires twisted together: *The truck towed the automobile with a cable.* **2** an insulated bundle of wires which carries an electric current. *noun*.

**can • yon** (kan'yən), a narrow valley with high, steep sides, usually with a stream at the bottom. *noun*.

**cap • ture** (kap'chər), **1** make a prisoner of; take by force; seize: *We captured butterflies with a net.* **2** attract and hold; catch and keep: *The story "Alice in Wonderland" captures the imagination.* *verb*, **cap • tured**, **cap • tur • ing**.

**car • toon** (kär'tün'), **1** sketch or drawing which interests or amuses us by showing persons, things, or events in an exaggerated way: *Political cartoons often represent the United States as a tall man with chin whiskers, called Uncle Sam.* **2** comic strip. **3** animated film. *noun*.

**car • toon • ist** (kär'tū'nist), person who draws cartoons. *noun*.

**ceil • ing** (sē'ling), the inside, top covering of a room; surface opposite the floor. *noun*.

**ce • leb • ri • ty** (sə leb'rē tē), a famous person; person who is well known or much talked about: *I collect the autographs of celebrities.* *noun, plural* **ce • leb • ri • ties**.

**chal • lenge** (chal'ənj), **1** anything that claims or commands effort, interest or feeling: *Fractions are a real challenge to her.* **2** claim or command effort, interest or feeling: *How to prevent disease is a problem that challenges everyone's attention.* **1 noun, 2 verb, chal • lenged, chal • leng • ing.**

**cham • ber** (chām'bər), **1** a room, especially a bedroom. **2** an enclosed space in the body of an animal or plant. The heart has four chambers. *noun*.

a hat	i it	oi oil	ch child	a = {	a in about
ā age	ī ice	ou out	ng long		e in taken
ä far	o hot	u cup	sh she		i in pencil
e let	ō open	ū put	th thin		o in lemon
ē equal	ô order	ü rule	th then		u in circus
ér term			zh measure		

**cham • pi • on** (cham'pē ən), **1** person or animal that wins first place in a game or contest: *a swimming champion. Her steer was the champion at the county fair last year.* **2** first; ahead of all others: *a champion runner.* **1 noun, 2 adjective.**

**chant** (chant), **1** a short, simple song in which several syllables or words are sung in one tone. Chants are sometimes used in religious services. **2** sing in this way. A choir chants psalms or prayers. **1 noun, 2 verb.**

**char • i • ot** (char'ē ət), a two-wheeled carriage pulled by horses. The chariot was used in ancient times for fighting and for racing. *noun*.

**chis • el** (chiz'əl), tool with a sharp edge at the end of a strong blade. Chisels are used for shaping wood, stone, or metal. *noun*.

**chore** (chôr), odd job; small task: *Feeding my pets is my daily chore.* *noun*.

**cin • der** (sin'dər), **1** piece of wood or coal that has burned up. **2** cinders, wood or coal partly burned but no longer flaming. Cinders are made up of larger and coarser pieces than ashes are. *noun*.

**class • mate** (klas'māt'), member of the same class in school. *noun*.

**clip • per** (klip'ər), a large sailing ship built for speed: *American clippers used to sail all over the world.* *noun*.



clipper



**clove** (klōv), a strong, fragrant spice, made from the dried flower buds of a tropical tree. *noun*.

**co • co • nut** or **co • coa • nut** (kō'kə nut'), the large, round, brown, hard-shelled fruit of the coconut palm. Coconuts have a white lining that is good to eat and a white liquid called **coconut milk**. The white lining is cut up into shreds and used for cakes, puddings, and pies. *noun*.

**col • lapse** (kə laps'), 1 fall in; shrink together suddenly: *Sticking a pin into the balloon caused it to collapse.* 2 break down: *He collapsed because he had overworked.* *verb*, **col • lapsed**, **col • laps • ing**.

**co • me • di • an** (kə mē'dē ən), 1 an actor in comedies. 2 person who amuses others with funny talk and actions. *noun*.

**com • e • dy** (kōm'ə dē), an amusing play or show having a happy ending. *noun*, plural **com • e • dies**.

**com • mand** (kə mand'), 1 give an order to; direct: *The queen commanded the admiral to set sail at once.* 2 possession of power; control: *She took command and led everyone from the burning building.* 1 *verb*, 2 *noun*.

**com • mo • tion** (kə mō'shən), disorder; confusion; disturbance: *Their fight caused quite a commotion in the hall.* *noun*.

**com • pass** (kum'pəs), 1 instrument for showing directions, consisting of a needle that points to the North Magnetic Pole, which is near the North Pole. 2 instrument for drawing circles and measuring distances. *noun*.

**com • pet • i • tor** (kəm pet'ə tər), person who tries hard to win or gain something wanted by others; a rival: *There are many competitors for the golf championship.* *noun*.

**com • pli • ment** (kōm'plə mənt for 1; kōm'plə mənt for 2), 1 something good said about you; something said in praise of your work: *She received many compliments on her science project.* 2 pay a compliment to; congratulate: *The principal complimented the boy on his good grades.* 1 *noun*, 2 *verb*.

**com • pute** (kəm pyüt'), do by arithmetic; figure out: *Mother computed the cost of our trip.* *verb*, **com • put • ed**, **com • put • ing**.

**com • put • er** (kəm pyüt'ər), machine which computes, especially an electronic machine that solves problems when given certain coded information. *noun*.

**con • dor** (kon'dər), a large vulture with a ruffed neck and bare head. Condors live on high mountains in South America and California. *noun*.

**con • fi • dent** (kon'fə dənt), 1 firmly believing in one's own self and one's own abilities. 2 certain; sure: *I feel confident that our team will win.* *adjective*.

**con • fu • sion** (kən fyü'zhən), 1 a disordered condition: *the confusion in an untidy room, the confusion in a*

*busy street after an accident.* 2 a being puzzled or bewildered: *His confusion over the address caused him to go to the wrong house.* *noun*.

**con • grat • u • la • tion** (kən grach'ə lā'shən), 1 act of wishing a person joy. 2 **congratulations**, expression of pleasure at another's happiness or good fortune: *Congratulations on your high grades.* *noun*.

**con • scious** (kon'shəs), able to feel; awake: *About five minutes after fainting he became conscious again.* *adjective*.

**con • tain • er** (kən tā'nər), box, can, jar, or carton used to hold or contain something. A pitcher is a container. *noun*.

**con • tract** (kən trakt'), draw together; make shorter, narrower, smaller: *contract a muscle.* *verb*.

**con • ver • sa • tion** (kon'vər sâ'shən), friendly talk; spoken exchange of ideas and opinions. *noun*.

**co • op • e • rate** (kō op'ə rāt'), work together: *Everyone cooperated in helping to clean up after the class party.* *verb*, **co • op • e • rat • ed**, **co • op • e • rat • ing**.

**cork** (kōrk), 1 the light, thick, outer bark of a kind of oak tree. Cork is used for bottle stoppers, floats for fishing lines, and some floor coverings. 2 a shaped piece of cork: *the cork of a bottle.* 3 any stopper for a bottle made of glass or rubber. *noun*.

**cough** (kōf), force air from the lungs with sudden effort and noise. *verb*.

**cour • age** (kēr'ij), meeting danger without fear; bravery; fearlessness: *The pioneers faced the hardships of the westward trip with courage.* *noun*.

**cra • dle** (krā'dl), a small bed for a baby, usually mounted on rockers. *noun*.



condor—about 4 feet (1½ meters) long; wingspread up to about 10 feet (3 meters)

**crea • ture** (krē'chər), 1 any living person or animal. 2 a being of uncertain, different, or mysterious nature. *noun*.

**crev • ice** (krev'is), a narrow split or crack: *Tiny ferns grew in crevices in the stone wall.* *noun*.



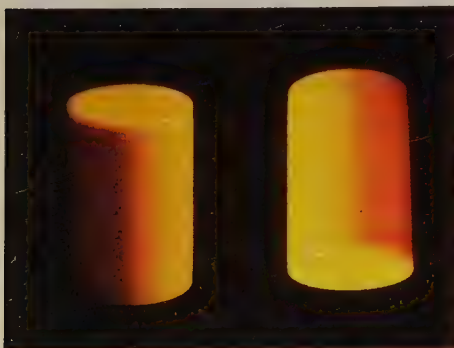
**curd** (kêrd). **1** Often, **curds**, the thick part of milk that separates from the watery part when milk sours. Cheese is made from curds. **2** anything similar to this. *noun*.

**cur • i • os • i • ty** (kyûr'ē os'ə tē), an eager desire to know: *She satisfied her curiosity about animals by visiting the zoo every week.* *noun, plural*  
**cur • i • os • i • ties**.

**cur • ry** (kêr'ē), a peppery sauce or powder made from a mixture of spices, seeds, and vegetables. Curry is a popular seasoning in India. *noun*.

**cus • to • dy** (kus'tē dē), **1** watchful keeping; charge; care. **2** in **custody**, in care of the police; under arrest. *noun*.

**cyl • in • der** (sil'en dər), **1** a hollow or solid object shaped like a round pole or tube. Tin cans and rollers are cylinders. **2** the part of an automobile engine that contains the piston. *noun*.



cylinders (definition 1)

## D d

**dain • ty** (dān'tē), **1** fresh and pretty: *The violet is a dainty spring flower.* **2** delicate; small: *The baby wore a dainty dress.* *adjective*, **dain • ti • er**, **dain • ti • est**.

**dam • age** (dam'ij), **1** harm or injury that lessens value or usefulness: *The accident did some damage to the car.* **2** harm or injury so as to lessen value or usefulness; hurt: *High winds damaged the wheat crop.* **1 noun, 2 verb, dam • aged, dam • ag • ing.**

**def • i • nite • ly** (def'ə nit lē), **1** in a clear and exact way: *Say definitely what you have in mind.* **2** certainly: *I definitely think I should go.* *adverb*.

**de • light** (di līt'), **1** great pleasure; joy: *The children took delight in their toys.* **2** something which gives great pleasure: *Swimming is her delight.* *noun*.

a hat	ī ice	oi oil	ch child	æ =	a in about
ā age	ī ice	ou out	ng long		e in taken
ā far	o hot	u cup	sh she		i in pencil
e let	ō open	ū put	th thin		o in lemon
ē equal	ō order	ū rule	th then		u in circus
ēr term			zh measure		

**de • lir • i • ous** (di lir'ē əs), **1** out of one's senses for a short time; wandering in mind; raving: *The patient with the high fever was delirious.* **2** wildly excited: *The students were delirious with joy when their team won the tournament.* *adjective*.

**de • mand** (di mand'), **1** ask for as a right: *demand a trial by jury.* **2** ask for in a firm manner: *The teacher demanded quiet during the exam.* **3** act of demanding. **4** things asked for or claimed: *Children make many demands on their parents.* **1, 2 verb, 3, 4 noun.**

**de • scend** (di send'), go or come down from a higher to a lower place: *The river descends from the mountains to the sea. We descended the stairs to get to the basement.* *verb*.

**de • vice** (di vis'), something invented or fitted for a particular use or special purpose. A can opener is a device: *Our car has a device to control pollution.* *noun*.

**di • gest** (də jest'), change (food) in the stomach and intestines, so that the body can use it: *We digest our food slowly. Our food digests.* *verb*.

**dis • a • gree** (dis'ə grē'), **1** differ; fail to agree: *Your account of the accident disagrees with hers.* **2** quarrel; dispute angrily: *The two neighbors never spoke to each other again after they disagreed about their boundary line.* *verb, dis • a • greed, dis • a • gree • ing.*

**dis • as • ter** (də zas'tər), event that causes much suffering or loss. Floods, fires, shipwrecks, and earthquakes are disasters. *noun*.



disaster

# distress | expression

**dis • tress** (dis tres'), 1 great pain or sorrow; anxiety; trouble: *The loss of our kitten caused us much distress.* *noun.*

**dough** (dō), a soft, thick mixture of flour, milk, fat, and other materials for baking. Bread, biscuits, cake, and pie crust are made from dough. *noun.*

**du • el** (dū'əl or dyū'əl), 1 a formal fight between two persons armed with guns or swords. 2 any fight or contest between two opponents. *noun.*

**dun • geon** (dun'jən), a dark underground room or cell in which prisoners are kept. *noun.*

## E e

**ear • piece** (ir'pēs'), 1 a part of a cap or helmet that covers and protects the ear. 2 the part of an instrument, such as a stethoscope or a hearing aid, that is held to or inserted into the ear. *noun.*

**e • di • tion** (i dish'ən), all the copies of a book printed just alike and at the same time: *The second edition of the book had many corrections for the errors in the first edition.* *noun.*

**ef • fort** (eff'ərt), use of energy and strength to do something; trying hard: *Climbing a steep hill takes effort.* *noun.*

**ef • fort • less** (eff'ərt lis), showing little or no effort; easy: *The cat pounced on the mouse with an effortless leap.* *adjective.* **ef • fort • less • ly**, *adverb.*

**em • bar • rass** (em bar'əs), make uneasy and ashamed; make self-conscious: *She embarrassed me by asking me if I really liked her.* *verb.*

**e • merge** (i mērj'), 1 come into view; come out; come up: *The sun emerged from behind a cloud.* 2 become known; be discovered: *New facts emerged as a result of a second investigation.* *verb.* **e • merged**, **e • merg • ing**.

**e • mer • gen • cy** (i mēr'jən sē), 1 an unexpected happening that calls for action without delay. 2 a sudden need for immediate action: *I keep a box of tools in my car for use in an emergency.* *noun, plural* **e • mer • gen • cies.**

**en • chant** (en chant'), 1 use magic on; put under a spell: *The witch enchanted the princess so that she slept for a month.* 2 delight greatly: *The music enchanted us all.* *verb.*

**en • coun • ter** (en koun'tər), meet unexpectedly: *What if we should encounter a bear?* *verb.*

**en • er • gy** (en'ər jē), 1 will to work; vigor: *The boy is so full of energy that he cannot keep still.* 2 capacity for doing work, such as lifting or moving an object.

Light, heat, and electricity are different forms of energy: *A steam engine changes heat into mechanical energy.* *noun, plural* **en • er • gies.**

**en • roll** or **en • rol** (en rōl'), 1 have one's name written on a list as a member. 2 make a member: *He enrolled his son in a music school.* *verb.* **en • rolled**, **en • roll • ing**.

**e • quip • ment** (i kwip'mənt), supplies that are needed for a special purpose or activity: *We keep our camping equipment in order.* *noun.*

**e • rase** (i rās'), rub out; wipe out: *He erased the wrong answer and wrote in the right one.* *verb.* **e • rased**, **e • ras • ing**.

**e • ras • er** (i rā'sər), something used to erase marks made with pencil, ink, or chalk. *noun.*

**e • soph • a • gus** (ē sof'ə gəs), the passage for food from the mouth to the stomach. *noun.*

**es • pe • cial • ly** (e spesh'ə lē), more than others; particularly; chiefly; specially: *This book is designed especially for students.* *adverb.*

**es • tab • lish** (e stab'lish), 1 set up and keep going for a long time: *to establish a government, to establish a day-care center.* 2 settle in a position; set up for a definite purpose: *A new doctor has established an office on this street.* *verb.*

**ex • cel** (ek sel'), be better than others; do better than others: *She excels in arithmetic.* *verb.* **ex • celled**, **ex • cel • ling**.

**ex • haust • ed** (eg zō'stid), 1 used up: *The teacher's patience was exhausted by everyone's trying to talk at once.* 2 worn out; very tired: *The exhausted hikers stopped to rest after their long walk.* *adjective.*

**ex • per • i • ence** (ek spir'ē əns), what happens to a person; what is seen, done, or lived through: *We had several pleasant experiences on our trip. People often learn by experience.* *noun.*

**ex • per • i • ment** (ek sper'ə mənt for 1; ek sper'ə mənt for 2), 1 try in order to find out; make trials or tests: *The painter is experimenting with different paints to get the color she wants.* 2 a trial or test to find out something: *a chemistry experiment. Scientists test out theories by doing experiments.* 1 *verb.* 2 *noun.*

**ex • pert** (ek'spèrt' for 1; ek spèrt' or ek'spèrt' for 2), 1 person who has much skill or who knows a great deal about some special thing: *She is an expert at fishing.* 2 having much skill; knowing a great deal about some special thing: *an expert painter.* 1 *noun.* 2 *adjective.*

**ex • pres • sion** (ek spresh'ən), 1 a putting into words: *the expression of an idea.* 2 word or group of words used together: *"Wise guy" is a slang expression.* 3 look that shows feeling: *The winners had happy expressions on their faces.* *noun.*

# F f

**fa • mil • iar** (fə mil' yər), well-known; common: *a familiar face. A hammer is a familiar tool.* *adjective.*

**fan • tas • tic** (fan tas'tik), 1 very odd; unreal; imaginary; strange and wild in shape or manner: *The firelight cast weird, fantastic shadows on the walls.* 2 unbelievably good: *fantastic weather, fantastic entertainment.* *adjective.*

**fate** (fāt), power that is supposed to decide and control what is to happen in the future. Fate is thought to be beyond anyone's control: *Many people don't believe in fate.* *noun.*

**fate • ful** (fāt'fəl), 1 controlled by fate. 2 determining what is to happen; important; decisive: *Yorktown was the site of a fateful battle of the Revolutionary War.* *adjective.*

**fe • male** (fē'māl), 1 woman or girl. 2 of or having to do with women or girls. 3 belonging to the sex that can give birth to young or lay eggs. Mares, cows, and hens are female animals. 4 animal belonging to this sex. 1, 4 *noun*, 2, 3 *adjective.*

**fi • ber** (fībər), any part of food that cannot be digested and so speeds the movement of food and waste products through the intestines. *noun.*

**fig • ure** (fig' yər), 1 use numbers to find out the answer to some problem: *Can you figure the cost of painting this room?* 2 do arithmetic. *verb*, **fig • ured**, **fig • ur • ing**.

**forg • er** (fôr'jər), 1 person who forges metals. 2 person who falsely and wrongfully signs another person's name to a check, letter, or document. *noun.*

**fra • grance** (frā'grəns), a sweet smell; a pleasing odor: *the fragrance of flowers, the fragrance of perfume.* *noun.*

**frig • id** (frij'id), very cold: *Arctic regions have a frigid climate.* *adjective.*

**fu • se • lage** (fyū'sə lāzh or fyū'sə lij), body of an airplane, to which the wings and tail are fastened. The fuselage holds the passengers, crew, and cargo. *noun.*

a hat	l it	oi oil	ch child	a in about e in taken i in pencil o in lemon u in circus
ā age	ī ice	ou out	ng long	
ä far	o hot	u cup	sh she	
e let	ō open	û put	th thin	
ē equal	ô order	û rule	th then	
er term			zh measure	

**gas • o • line** or **gas • o • lene** (gas'ə lēn' or gas'ə lēn'), a colorless liquid made from petroleum. It evaporates and burns very easily. Gasoline is used chiefly as a fuel to run automobiles. *noun.*

**gi • raffé** (jə raf'), a large African animal that chews its cud and has hoofs, a very long neck, long legs, and a spotted skin. Giraffes are the tallest living animals. *noun.*

**glimpse** (glimps), a very brief view; short look: *I caught a glimpse of the falls as our train went by.* *noun.*

**glo • ri • ous** (glôr'ē əs), 1 having or deserving great praise or honor. 2 magnificent; splendid: *a glorious day, a glorious victory.* *adjective.*

**gown** (goun), 1 a woman's dress. 2 a nightgown: *The baby's gown is made of flannel.* *noun.*

**grad • u • ate** (graj'ü ät for 1; graj'ü it for 2), 1 finish the course of a school or college and be given a diploma or paper saying so. 2 person who has graduated and has a diploma. 1 *verb*, **grad • u • at • ed**, **grad • u • at • ing**; 2 *noun.*

**grid • dle** (grid'l), a heavy, flat plate, usually of metal, on which to cook pancakes, bacon, and similar foods. *noun.*

**griz • zly** (griz'lē), 1 grayish; gray. 2 grizzly bear. 1 *adjective*, **griz • zli • er**, **griz • zli • est**; 2 *noun*, plural **griz • zlies**.

**grizzly bear**, a large, fierce, brownish-gray bear of western North America.



grizzly bear—up to about 5 feet (1½ meters) high at the shoulder

# G g

**gar • lic** (gär'lik), plant like an onion, used in cooking. Its flavor is stronger than that of an onion. *noun.*



# gymnasium | idolize

**gym • na • si • um** (jim nă'zē əm), room or building used for physical exercises or training and for indoor sports. *noun, plural gym • na • si • ums, gym • na • si • a* (jim nă'zē ə).

**gym • nast** (jim'nast), an expert in gymnastics. *noun.*

**gym • nas • tics** (jim nas'tiks), exercises for developing the muscles and improving physical fitness and health. *noun, plural.*

## H h

**hail** (hāl), **1** greet; cheer; shout in welcome to: *The crowd hailed the winner.* **2** greet with much approval: *He was hailed as the new champion.* *verb.*

**hand • i • cap** (han'dē kap'), **1** something that puts a person at a disadvantage: *A sore throat was a handicap to the singer.* **2** put at a disadvantage; hinder: *The swimmer was handicapped by a sore arm.* *1 noun, 2 verb, hand • i • capped, hand • i • cap • ping.*

**hand • i • capped** (han'dē kap't'), having a physical or mental disability. *adjective.*

**har • bor** (här'bər), area of deep water protected from winds and currents, forming a place of shelter for ships and boats: *Many yachts are in the harbor.* *noun.*



harbor

**hard • ship** (hărd'ship), something hard to bear; something that makes living very difficult: *Hunger, cold, and sickness were among the hardships of pioneer life.* *noun.*

**hel • met** (hel'mit), covering made of steel, leather, plastic, or some other sturdy material, worn to protect the head. *noun.*

**her • on** (her'en), a wading bird with a long neck, a long bill, and long legs. Herons feed on fish, frogs, and small reptiles. *noun.*

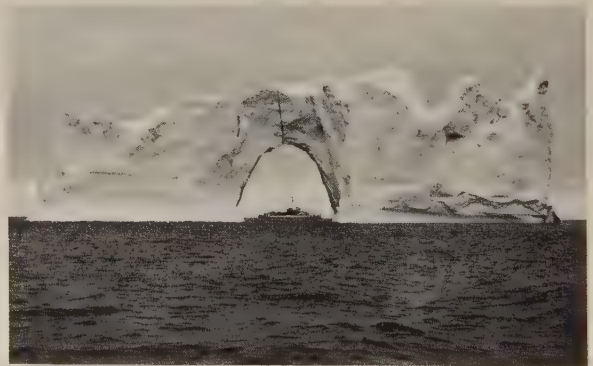
**hoarse** (hōrs), **1** sounding rough and deep: *the hoarse croak of the bullfrog.* **2** having a rough voice: *A bad cold has made her hoarse.* *adjective, hoars • er, hoars • est.*

**hos • tage** (hos'tij), person taken by an enemy and held as a pledge: *The hostage will be kept safe and will be returned when our enemies' promises have been carried out.* *noun.*

**hum • mock** (hum'ək), **1** a very small, rounded hill or knoll. **2** a bump or ridge in a field of ice. *noun.*

## I i

**ice • berg** (īs'bérɡ'), a large mass of ice floating in the sea. A ship may be wrecked on an iceberg. About 90 percent of an iceberg's mass is below the surface of the water. *noun.*



iceberg—The part of an iceberg under water is about nine times bigger than the part above water.

**i • den • ti • cal** (ī den'tə kəl), **1** the same: *Both events happened on the identical day.* **2** exactly alike: *identical bicycles.* *adjective.*

**i • dol • ize** (ī'dl īz), love or admire very, very much: *Some baseball fans idolize their favorite players.* *verb, i • dol • ized, i • dol • iz • ing.*

**im • mense** (i mēns'), very big; huge; vast: *An ocean is an immense body of water.* *adjective.*



immense—People look tiny beside this immense machine.

**im • press** (im pres'), have a strong effect on the mind or feelings of; influence deeply: *The movie impressed those who saw it.* *verb.*

**im • pris • on • ment** (im priz'ŋ mēnt), **1** putting or keeping in prison: *We read about the imprisonment of the convicted criminal.* **2** being put or kept in prison: *His imprisonment lasted a year.* *noun.*

**in • cline** (in klīn' for **1** and **3**; in'klīn or in klīn' for **2**), **1** make willing or favorable: *I hope my arguments will incline you to change your mind.* **2** a sloping surface. The side of a hill is an incline. **3** lean; bend; bow: *She inclined her head toward the sound.* **1, 3 verb, in • clined, in • clin • ing; 2 noun.**

**in • cred • i • ble** (in kred'ə bəl), hard to believe; seeming too extraordinary to be possible; beyond belief: *The racing car rounded the curve with incredible speed.* *adjective.*

**in • di • vid • u • al** (in'də vij'ü əl), **1** a single person, animal, or thing. **2** belonging to or marking off one person or thing specially: *an individual style of writing.* **1 noun, 2 adjective.**

**in • ex • per • i • ence** (in'ik spir'ē əns), lack of practice; lack of skill or wisdom gained from experience. *noun.*

**in • ex • per • i • enced** (in'ik spir'ē ənst), without practice; lacking the skill and wisdom gained from experience. *adjective.*

**in • sist** (in sist'), keep firmly to some demand, some statement, or some position: *He insists that he had a right to use his brother's tools. She insists that we should all learn to ski.* *verb.*

a hat	i it	oi oil	ch child	a in about e in taken i in pencil o in lemon u in circus
ā age	ī ice	ou out	ng long	
ă far	o hot	u cup	sh she	
e let	ō open	û put	th thin	
ē equal	ō order	û rule	th then	
ēr term			zh measure	

**in • spi • ra • tion** (in'spə rā'shən), a sudden, brilliant idea: *He had a sudden inspiration; he now knew how to solve the problem.* *noun.*

**in • stant** (in'stənt), a particular time; an exact moment: *Stop talking this instant!* *noun.*

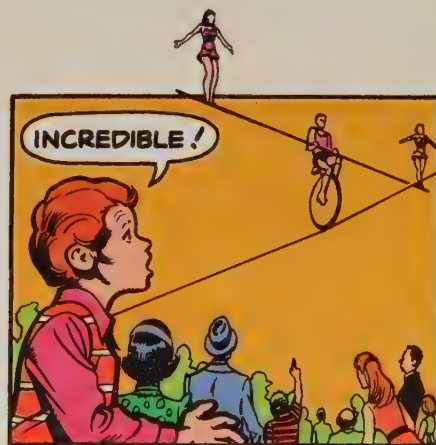
**in • struc • tion** (in struk'shən), **1** a teaching or educating. **2** instructions, directions or orders: *The teacher's instructions were clearly understood.* *noun.*

**in • stru • ment** (in'strə mēnt), a device for producing musical sounds: *wind instruments, stringed instruments.* A violin, cello, and piano were the instruments in the trio. *noun.*

**in • sult** (in sult' for **1**; in'sult for **2**), **1** say or do something very scornful, rude, or harsh to: *She insulted me by calling me a liar.* **2** an insulting speech or action: *To be called stupid is an insult.* **1 verb, 2 noun.**

**in • ter • na • tion • al** (in'tər nash'ə nəl), **1** between or among nations: *A treaty is an international agreement.* **2** something involving more than one nation: *an international tennis tournament.* *adjective.*

**in • trude** (in trüd'), force oneself in; come in without invitation and unwanted: *Do not intrude upon your neighbors.* *verb, in • trud • ed, in • trud • ing.*



**in • trud • er** (in trü'dər), person who intrudes. *noun.*

**in • ven • tion** (in ven'shən), **1** making something new: *the invention of the steam engine.* **2** thing invented: *Television is a modern invention.* *noun.*

# J j

**jean** (jēn), 1 a stout, heavy cotton cloth used for overalls. 2 **jeans**, overalls or trousers made of this cloth: *The cowgirl wore faded jeans.* *noun.*

# K k

**knead** (nēd), press or mix together (dough or clay) into a soft mass. Kneading may be done with the hands or by machine. *The baker was kneading dough to make bread.* *verb.*

**knoll** (nōl), a small rounded hill; a mound. *noun.*

# L l

**lame** (lām), 1 not able to walk properly; having an injured leg or foot; crippled: *He limps because he has been lame since birth.* 2 make lame; cripple: *The accident lamed me for life.* 1 *adjective, lam • er, lam • est;* 2 *verb, lamed, lam • ing.*

**laugh** (laf), 1 make the sounds and movements of the face and body that show one is happy or amused: *We all laughed at the joke.* 2 act or sound of laughing: *a hearty laugh.* 1 *verb, 2 noun.*

**laugh • ter** (laf'tər), 1 sound of laughing: *Laughter filled the room.* 2 action of laughing: *The clown's funny actions brought forth laughter from the children.* *noun.*

**lay • er** (lā'ər), one thickness or fold: *the layer of clothing next to the skin. A layer cake is made of two or more layers put together.* *noun.*

**league** (lēg), a group of persons, parties, or nations joined together to help one another, or united for some common purpose. *noun.*

**leg • end** (lej'ənd), story coming down from the past, which many people have believed: *The stories about Robin Hood are legends, not history.* *noun.*

# M m

**mag • nif • i • cent** (mag nif'ə sənt), richly colored or decorated; splendid; grand: *a magnificent palace, a magnificent view of the mountains.* *adjective.*

**mag • nif • i • cent • ly**, *adverb.*



magnificent—She wore a magnificent costume.

**maize** (māz), plant whose grain grows on large ears. Also called **corn** or **Indian corn.** *noun.*

**man • do • lin** (man'də lin' or man'dl ən), a musical instrument with a pear-shaped body and four to six pairs of metal strings. It is played with a pick. *noun.*

**mar • a • thon** (mar'ə thon), 1 a foot race of 26 miles (about 42 kilometers). 2 any long race or contest. *noun.*

**mar • vel • ous** or **mar • vel • lous** (mār'və ləs), 1 causing wonder; extraordinary. 2 excellent; unusually good; fine: *a marvelous time.* *adjective.*

**mast** (mast), a long pole of wood or metal set upright on a ship to support the sails. *noun.*

**mate** (māt), officer of a ship ranking next below the captain. *noun.*

**me • chan • ic** (mē kan'ik), worker skilled with tools, especially one who repairs machines: *an automobile mechanic.* *noun.*



**med • i • cine** (med'ə sən), **1** substance, such as a drug, used to treat or cure disease: *While I was sick I had to take my medicine three times a day.* **2** science of treating, preventing, or curing disease: *You must study medicine for several years before you can become a doctor.* *noun.*

**mi • cro • scope** (mī'krə skōp), instrument with a lens or set of lenses for making small things look larger. Bacteria, blood cells, and other objects not possible to see with the naked eye can be seen through a microscope. *noun.*

**min • er • al** (min'ər əl), **1** substance obtained by mining or digging in the earth. Coal, gold, and mica are minerals. **2** any substance that is neither plant nor animal. Sand is a mineral. *noun.*

**mo • tion • less** (mō'shən lis), not moving. *adjective.*

**mound** (mound), **1** a bank or heap of earth or stones. **2** a small hill. **3** the slightly elevated ground from which a baseball pitcher pitches. *noun.*

**move • ment** (mūv'mənt), **1** act or fact of moving; motion. **2** a changing of place or position. *noun.*

**mu • se • um** (myū zē'əm), a building or rooms where a collection of objects related to science, ancient life, art, history, or other subjects is kept and displayed. *noun.*

**mus • sel** (mus'əl), water animal that has two hinged parts to its shell. Mussels look like clams and are found in both fresh and salt water. *noun.*

## N n

**nav • i • gate** (nav'ə gāt), **1** sail, manage, or steer (a ship, aircraft, or rocket): *She navigated the sailboat through the choppy waters.* **2** manage a ship or aircraft: *Sailors of ancient times navigated by the stars.* *verb*, **nav • i • gat • ed**, **nav • i • gat • ing**.

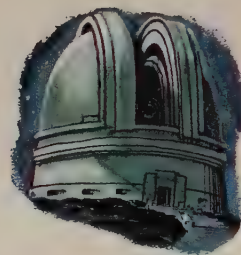
**nerv • ous** (nēr'vəs), **1** easily excited or upset: *A person who has been overworking is likely to become nervous.* **2** restless or uneasy: *Are you nervous about staying alone at night?* *adjective.*

## O o

**ob • serv • a • to • ry** (əb zér'və tōr'ē), place or building fitted up with a telescope for observing the

a hat	l it	ol oil	ch child	e =	a in about
ā age	ī ice	ou out	ng long		e in taken
ā far	o hot	u cup	sh she		i in pencil
e let	ō open	ū put	th thin		o in lemon
ē equal	ô order	û rule	th then		u in circus
ēr term			zh measure		

stars and other heavenly bodies. *noun, plural*  
**ob • serv • a • to • ries.**



observatory

**of • fi • cer** (ô'fə sər), **1** person who commands others in the armed forces. **2** person who holds a public, church, or government office: *a health officer, a police officer.* **3** the president, vice-president, secretary, or treasurer of a club or society. *noun.*

**o • pin • ion** (ə pin'yən), what one thinks; belief not so strong as knowledge: *I try to learn the facts and form my own opinions.* *noun.*

**or • gan** (ôr'gən), **1** a musical instrument that has pipes of different lengths and often several sets of keys. **2** any part of an animal or plant fitted to do certain things. The eyes, ears, stomach, heart, and lungs are organs of the body. *noun.*

**out • ra • geous** (out rā'jəs), very bad or insulting; shocking: *outrageous language.* *adjective.*

**out • skirts** (out'skērts'), the outer parts or edges of a town or city: *We have a farm on the outskirts of town.* *noun plural.*

**o • ver • grow** (ô'vər grō'), grow over: *The wall is overgrown with vines.* *verb*, **o • ver • grew**, **o • ver • grown**, **o • ver • grow • ing**.

**o • ver • grown** (ô'vər grōn'), See *overgrow*. *The vines have overgrown the wall.* *verb.*

**o • ver • whelm** (ô'vər hwelm'), overcome completely; overpower: *overwhelm with grief, overwhelm with praise.* *verb.*

**ox • y • gen** (ok'sə jən), a gas without color, taste, or odor that forms about one fifth of the air. Animals and plants cannot live without oxygen. Fire will not burn without oxygen. *noun.*

# P p

**palm** (pām), any of a group of trees or shrubs which grow in warm climates. Most palms have tall trunks, no branches, and many large leaves at the top. *noun.*



palm tree

**pan • cre • as** (pan'krē əs), gland near the stomach that helps digestion. *noun.*

**pan • to • mime** (pan'tə mīm), 1 play in which actors use gestures and facial expression instead of words. 2 gestures without words. *noun.*

**par • a • lyze** (par'ə līz), cause a lessening or loss of the power of motion or feeling in any part of the body: *The patient's left arm was paralyzed.* *verb,* **par • a • lyzed, par • a • lyz • ing.**

**pat • ent** (pat'nt), 1 an official paper issued by the government which gives a person or company the first and only right to make, use, or sell a new invention for a certain number of years. 2 get a patent for: *She patented her new invention.* 1 *noun,* 2 *verb.*

**pa • tient** (pā'shənt), person who is being treated by a doctor. *noun.*

**pave • ment** (pāv'mənt), 1 covering or surface for streets, sidewalks, or driveways, made of asphalt, concrete, gravel, or stones. 2 a paved road or street. *noun.*

**pend • ant** (pen'dənt), a hanging ornament, such as a locket. *noun.*

**per • form • ance** (pər fôr'məns), 1 a carrying out; the act of doing what is expected: *the performance of a duty.* 2 the giving of a play, concert, circus, or other show: *The performance is at 8 o'clock.* *noun.*

**per • ma • nent** (pər'mə nənt), 1 intended to last; not for a short time only; lasting: *a permanent filling in a tooth. After doing odd jobs for a week, I got a permanent position as salesclerk.* 2 a permanent wave. 1 *adjective,* 2 *noun.*

**per • mit** (pər mit'), let; allow: *My parents will not permit me to stay up late. The law does not permit smoking in this store.* *verb,* **per • mit • ted, per • mit • ting.**

**per • spi • ra • tion** (pər'spə rā'shən), sweat: *The runner's forehead was damp with perspiration.* *noun.*

**per • suade** (pər swād'), win over to do something or to believe something; make willing by urging: *I knew I should study, but he persuaded me to go to the movies.* *verb,* **per • suad • ed, per • suad • ing.**

**phar • aoh** (fer'ō), title given to the kings of ancient Egypt. *noun.*

**phe • nom • e • non** (fə nom'ə non), something or someone extraordinary or remarkable: *The Grand Canyon is a phenomenon of nature.* *noun, plural phe • nom • e • na or phe • nom • e • nons.*

**pho • no • graph** (fō'nə graf), instrument that reproduces sounds from records; record player. As a record turns, a special needle picks up its sounds, which are heard on a loudspeaker. *noun.*

**pig • eon** (pij'ən), any of a group of birds with thick bodies and short tails and legs, including doves and many varieties of domestic pigeons. *noun.*

**plan • e • tar • i • um** (plan'ə ter'ē əm or plan'ə tar'ē əm), a building with special equipment for showing the movements of the sun, moon, planets, and stars. These movements are shown by projecting lights on the inside of a dome. *noun.*

**plas • tic** (plas'tik), 1 any of various substances that can be shaped or molded when hot and become hard when cooled. Some plastics are very strong and tough. Vinyl and nylon are plastics. 2 made of a plastic: *a plastic bottle, a plastic dish.* 1 *noun,* 2 *adjective.*

**pla • teau** (pla tō'), plain in the mountains, or very high above sea level; large, high plain. *noun, plural pla • teaus, pla • teaux (pla tōz').*

**play • er** (plā'ər), 1 person who plays: *a baseball player, a card player.* 2 actor in a theater. 3 a musician. 4 thing or device that plays: *A phonograph is a record player.* *noun.*

**pli • ers** (plī'ərz), small pincers with long jaws for bending or cutting wire or for holding small objects. *noun plural or singular.*

**pluck** (pluk), 1 pull at; pull: *She plucked at the loose threads of her coat.* 2 pull on (the strings of a musical instrument): *He plucked the strings of his guitar.* *verb.*

**plunge** (plunj), 1 rush; dash: *The runner plunged ahead five yards.* 2 a jump or thrust; a dive: *a sudden plunge into the sea.* 1 *verb, plunged, plung • ing;* 2 *noun.*

**pop • u • lar** (pop'yə lər), 1 liked by most people: *a popular song, a popular book*. 2 widespread among many people; common: *a popular belief, a popular style of painting*. *adjective*.

**pop • u • la • tion** (pop'yə lā'shən), the total number of inhabitants of a place. *noun*.

**post • age** (pō'stij), amount of money paid on anything sent by mail. *noun*.

**post • er** (pō'stər), a large printed sheet or notice put up on a wall. *noun*.

**pouch** (pouch), a small bag or sack usually of cloth or leather, closed with a drawstring: *a tobacco pouch, a pouch for jewels*. *noun, plural pouch • es*.

**prair • ie** (prer'ē), a large area of level or rolling land with grass but few or no trees. *noun*.

**pre • cious** (pres'həs), having great value; worth much; valuable. *adjective*.

**pret • ty** (prit'ē), 1 pleasing to the eye or ear: *a pretty face, a pretty dress, a pretty tune*. 2 not at all pleasing: *This is a pretty mess, indeed*. 3 fairly; rather: *It is pretty late*. 1, 2 *adjective*, **pret • ti • er**, **pret • ti • est**; 3 *adverb*.

**prin • ci • pal** (prin'sə pəl), 1 most important; main; chief: *Chicago is the principal city of Illinois*. 2 a chief person; one who gives orders. 3 the head of a school. 1 *adjective*, 2, 3 *noun*.

**pro • ces • sion** (prə sesh'ən), 1 something that moves forward; persons marching or riding: *A funeral procession filled the street*. 2 an orderly moving forward: *We formed lines to march in procession onto the platform*. *noun*.

**pro • claim** (prə klām'), make known publicly; declare publicly: *The congresswoman proclaimed that she would not vote to raise taxes*. *verb*.

**prod • i • gy** (prod'ə jē), a person having amazing ability and talent, especially an unusually gifted child: *a musical prodigy, a child prodigy*. *noun, plural prod • i • gies*.

**pro • fes • sion** (prə fesh'ən), an occupation requiring special education, such as law, medicine, teaching, or the ministry. *noun*.

**pro • fes • sion • al** (prə fesh'ə nəl), 1 of or having something to do with a profession. 2 engaged in a profession: *A lawyer or a doctor is a professional person*. 3 making a business or trade of something which others do for pleasure: *professional musicians*. 4 person who does this. 1–3 *adjective*, 4 *noun*.

a hat	ī it	oi oil	ch child	ə = { a in about e in taken i in pencil o in lemon u in circus
ā age	ī ice	ou out	ng long	
ā far	o hot	u cup	sh she	
e let	ō open	ū put	th thin	
ē equal	ō order	ū rule	th then	
ēr term			zh measure	

**prof • it** (prof'it), the gain from a business; what is left when the cost of goods and of carrying on the business is subtracted from the amount of money taken in: *The profits in this business are not large*. *noun*.

**prong** (prŏng), one of the pointed ends of a fork. *noun*.

**pro • pose** (prə pōz'), 1 put forward; suggest: *I propose that we take turns at the swing*. 2 intend; plan: *She proposes to save half of all she earns*. *verb*, **pro • posed**, **pro • pos • ing**.

**pro • tein** (prō'tēn), one of the substances which are a necessary part of the cells of animals and plants. Foods such as meat, milk, cheese, eggs, and beans contain protein. *noun*.



procession

**prowl** (proul), 1 go about slowly and secretly hunting for something to eat or steal: *Many wild animals prowl at night*. 2 a prowling: *on the prowl*. 1 *verb*, 2 *noun*.

**pub • lish • er** (pub'li shər), person or company whose business is to produce and sell books, newspapers, or magazines: *Look at the bottom of the title page of this book for the publisher's name*. *noun*.

**pyr • a • mid** (pir'ə mid), 1 a solid figure having a base and triangular sides which meet in a point. 2 anything having the form of a pyramid. 3 **Pyramids**, the huge stone pyramids, serving as royal tombs, built by the ancient Egyptians. *noun*.



# Q q

**quar • rel** (kwôr'əl), 1 an angry dispute; a fight with words: *The children had a quarrel over the candy.* 2 fight with words; disagree angrily: *The two friends quarreled and now they don't speak to each other.* 1 noun, 2 verb.

# R r

**ra • vine** (rə vên'), a long, deep, narrow valley: *The river had worn a ravine between the two hills.* noun.

**rec • re • a • tion** (rek'rê â'shən), play; amusement; relaxation. Walking, gardening, and reading are quiet forms of recreation. noun.



recreation—Sports and games are forms of recreation.

**re • frig • e • ra • tor** (ri frij'ə rā'tər), box, room, etc., that keeps foods and other items cool. An electric refrigerator keeps food cool without ice. noun.

**re • hearse** (ri hêrs'), practice for a public performance: *We rehearsed our parts for the school play,* verb, **re • hearsed**, **re • hears • ing**.

**re • lax** (ri laks'), loosen up; make or become less stiff or firm: *Relax your muscles to rest them. We relaxed on the beach.* verb.

**re • main** (ri măn'), 1 continue in a place; stay: *We shall remain at the seashore till October.* 2 remains, what is left: *remains of a building. The remains of the meal were fed to the dog.* 1 verb, 2 noun.

**re • mark • a • ble** (ri măr'kə bəl), worthy of notice; unusual; beyond what is ordinary: *He has a remarkable memory.* adjective.

**re • mote** (ri môt'), 1 far away; far off: *The North Pole is a remote part of the world.* 2 out of the way; secluded: *Mail comes to this remote village only once a week.* adjective, **re • mot • er**, **re • mot • est**.

**re • new** (ri nû' or ri nyû'), 1 make new again; make like new; restore: *Rain renews the greenness of the fields.* 2 replace by new material or a new thing of the same sort; fill again: *The well renews itself no matter how much water is taken away.* verb.

**res • er • voir** (rez'er vwär), 1 place where water is collected and stored for use: *This reservoir supplies the entire city.* 2 anything to hold a liquid; a tank. noun.

**res • pi • ra • tion** (res'pə rā'shən), act of inhaling and exhaling; breathing: *A bad cold can make respiration difficult.* noun.

**re • store** (ri stôr'), bring back to a former condition or to a normal condition: *The old house has been restored. He is restored to health.* verb, **re • stored**, **re • stor • ing**.

**re • ver • sal** (ri vër'səl), a change to the opposite position or in the opposite direction. noun.

**re • verse** (ri vers'), 1 the opposite: *She did the reverse of what I suggested.* 2 turned backward; opposite or contrary in position or direction: *Play the reverse side of that phonograph record.* 3 the back: *His name is on the reverse of the medal.* 4 turn the other way; turn inside out; turn upside down: *Reverse your order in line.* 1, 3 noun, 2 adjective, 4 verb, **re • versed**, **re • vers • ing**.

**rid • i • cule** (rid'ə kyül), 1 laugh at; make fun of: *People once ridiculed the Wright brothers' invention.* 2 words or actions that make fun of somebody or something: *I was very hurt by the ridicule of my classmates.* 1 verb, **rid • i • culed**, **rid • i • cul • ing**; 2 noun.

**ri • dic • u • lous** (ri dik'yə ləs), deserving to be laughed at or made fun of: *It would be ridiculous to walk backward all the time.* adjective.

**roam** (rôm), go about with no special plan or aim; wander: *roam through the fields.* verb.

**rook • ie** (rûk'ë), 1 an inexperienced person. 2 a beginner. 3 a new player on an athletic team, especially a professional baseball player in his first season. noun.

## S s

**sa • li • va** (sə lī'və), liquid produced by glands in the mouth to keep it moist, help in chewing, and start digestion. *noun*.

**salm • on** (sam'ən), a large food fish with silvery scales and yellowish-pink flesh. *noun, plural salm • ons or salm • on*.

**san • dal** (san'dəl), 1 kind of shoe made of a sole fastened to the foot by straps. 2 any of various kinds of open shoes. *noun*.

**sat • el • lite** (sat'əlīt), 1 a heavenly body that revolves around a planet or other larger heavenly body. The moon is a satellite of the earth. 2 an artificial object shot by a rocket into an orbit around the earth or other heavenly body. Such satellites are used to transmit information. *noun*.



satellite

**schem • er** (skē'mər), person who thinks up and plots things that are usually tricky and often harmful. *noun*.

**sea • weed** (sē'wēd'), any plant or plants growing in the sea. *noun*.

**sem • i • pre • cious** (sem'i presh'əs), having some value; of less than the highest value. Garnets are semiprecious stones. They are less valuable than diamonds, which are precious stones. *adjective*.

**se • vere** (sə vir'), 1 sharp or violent: a severe headache, a severe storm. 2 very serious: a severe illness. *adjective, se • ver • er, se • ver • est*.

**shud • der** (shud'ər), 1 tremble with horror or fear: I shudder at the sight of snakes. 2 a trembling; a quivering. 1 *verb*, 2 *noun*.

**skel • e • ton** (skel'ə tən), bones of a body, fitted together in their natural places. The skeleton is a frame that supports the muscles and organs of the body. *noun*.

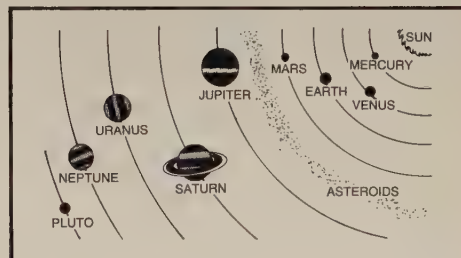
<b>a</b> hat	<b>i</b> it	<b>oi</b> oil	<b>ch</b> child	e = {	a in about
<b>ā</b> age	<b>ī</b> ice	<b>ou</b> out	<b>ng</b> long		e in taken
<b>ä</b> far	<b>o</b> hot	<b>u</b> cup	<b>sh</b> she		i in pencil
<b>e</b> let	<b>ō</b> open	<b>ū</b> put	<b>th</b> thin		o in lemon
<b>ē</b> equal	<b>ô</b> order	<b>û</b> rule	<b>ʒh</b> then		u in circus
<b>ér</b> term			<b>zh</b> measure		

**sly** (slī), 1 able to fool or trick; cunning; crafty; tricky: *someone as sly as a fox. The sly cat stole the meat while the cook's back was turned.* 2 playfully crafty: *a sly wink. adjective, sly • er, sly • est or sli • er, sli • est*.

**snip • pet** (snip'it), 1 a small piece snipped off; bit; scrap. 2 a small or unimportant person. *noun*.

**soc • cer** (sok'ər), game played between two teams of eleven players each, using a round ball. The ball may be struck with any part of the body except the hands and arms. *noun*.

**solar system**, the sun and all the planets, satellites, comets, etc., that revolve around it.



solar system

**spa • ghet • ti** (spə get'ē), long, slender sticks made of the same mixture of flour and water as macaroni. Spaghetti is thinner than macaroni and not hollow. It is cooked by boiling in water. *noun*.

**squawk** (skwôk), make a loud, harsh sound: *Hens and ducks squawk when frightened.* *verb*.

**stern** (stĕrn), the rear part of a ship, boat, or aircraft. *noun*.

**steth • o • scope** (steth'ə skōp), instrument used by doctors when listening to sounds in the lungs, heart, or other part of the body. *noun*.

**stir • rup** (stĕr'əp or stĭr'əp), loop or ring of metal or wood that hangs from a saddle to support the rider's foot. *noun*.

**strain** (strān), 1 draw tight; stretch. 2 use to the utmost: *I strained every muscle to lift the rock. The singer strained her voice to reach the high notes.*

3 injure by too much effort or by stretching: *I strained a muscle.* *verb*.

# stretcher | typewriter

**stretch • er** (strech'ər), canvas stretched on a frame for carrying the sick, wounded, or dead. *noun*.

**stub • born** (stub'ərn), 1 not giving in to argument or requests to change one's mind: *The stubborn child refused to listen to reasons for not going out in the rain.* 2 hard to deal with or manage: *a stubborn mule.* *adjective*.

**sub • ject** (sub'jikt), 1 something learned or taught: *English, science, and arithmetic are some of the subjects we take up in school.* 2 person under the power or control of another: *The people are the subjects of the king.* *noun*.

**sub • ma • rine** (sub'mə rēn'), 1 a boat that can operate under water. 2 a vessel designed for undersea attack. *noun*.

**suf • fo • cate** (suf'ə kât), 1 gasp for breath; choke. 2 die for lack of air. *verb*, **suf • fo • cat • ed**, **suf • fo • cat • ing**.

**sum • mit** (sum'it), the highest point; the top: *the summit of a mountain.* *noun*.

**sur • face** (sēr'fis), 1 the outside of anything: *An egg has a smooth surface.* 2 any face or side of a thing: *A cube has six surfaces.* 3 the top of the ground or of a body of water: *The stone sank below the surface.* *noun*.

## T t

**tel • e • gram** (tel'ə gram), message sent by telegraph: *Father sent a telegram telling us what train to take.* *noun*.

**tel • e • graph** (tel'ə graf), 1 way of sending coded messages over wires by means of electricity. 2 device used for sending these messages. *noun*.

**tel • e • scope** (tel'ə sköp), instrument for making distant objects appear nearer and larger. The stars are studied by means of telescopes. *noun*.

**tem • per • a • ture** (tem'pər ə chər), degree of heat or cold. The temperature of freezing water is 32 degrees Fahrenheit (0 degrees Celsius). *noun*.

**tense** (tens), 1 stretched tight; pulled tight: *a tense rope, a face tense with pain.* 2 strained; keyed up: *tense nerves, a tense moment.* *adjective*. **tens • er**, **tens • est**.

**ter • ri • fy** (ter'ə fī), fill with great fear; frighten very much: *Terrified by the sight of the bear, they ran into the cabin.* *verb*. **ter • ri • fied**, **ter • ri • fy • ing**.

**threat • en** (thret'n), 1 say what will be done to hurt or punish: *The teacher threatened to fail students that did no homework.* 2 be a sign or warning of (possible evil or harm): *Black clouds threaten rain.* 3 be a cause of harm to: *A flood threatened the city.* *verb*.

**tide** (tid), the rise and fall of the ocean about every twelve hours, caused by the pull of the moon and the sun: *We go swimming at high tide; at low tide we dig clams.* *noun*.

**tink • er** (ting'kər), 1 work at or repair something in an unskilled or clumsy way: *The children were tinkering with the clock and broke it.* 2 work or keep busy in a rather useless way: *I was tinkering in my workshop.* *verb*.

**tomb** (tüm), grave or vault for a dead body, often above ground. *noun*.

**tongs** (tôngz), tool with two arms that are joined by a hinge or spring, used for seizing, holding, or lifting. *noun plural*.

**tooth • paste** (tüth'pāst'), paste used in cleaning the teeth. *noun*.

**tour • na • ment** (tèr'nə mēnt or tūr'nə mēnt), series of contests testing the skill of many persons in some sport: *a golf tournament.* *noun*.

**tra • di • tion** (trə dish'ən), 1 the handing down of beliefs, opinions, customs, and stories from parents to children. 2 what is handed down in this way: *According to tradition, Betsy Ross made the first American flag.* 3 a practice repeated so often that it becomes a custom. *noun*.

**tram • ple** (tram'pəl), tread heavily on; crush: *The herd of wild cattle trampled the farmer's crops.* *verb*, **tram • pled**, **tram • pling**.

**trans • fer** (tran sfēr'), change or move from one place, position, or condition to another: *The clerk was transferred to another department. I transferred my interest from baseball to basketball.* *verb*, **trans • ferred**, **trans • fer • ring**.

**treach • er • ous** (trech'ər əs), having a false appearance of strength or safety; not reliable: *Thin ice is treacherous.* *adjective*.

**trek** (trek), 1 travel slowly by any means; travel: *The pioneers trekked across the great western plains by covered wagon.* 2 journey: *It was a long trek over the mountains.* 1 *verb*, **trekked**, **trek • king**; 2 *noun*.

**trounce** (trouns), 1 beat or thrash. 2 defeat in a contest or match: *The victors trounced the losing team.* *verb*, **trounced**, **trounc • ing**.

**trou • sers** (trou'zərz), a two-legged outer garment reaching from the waist to the ankles; pants. *noun plural*.

**tu • ber • cu • lo • sis** (tū bér'kyə lō'sis or tyū bér'kyə lō'sis), a disease that destroys various parts of the body, but most often the lungs. *noun*.

**type • writ • er** (tip'rī'ər), machine for writing which reproduces letters and figures similar to printed ones. *noun*.



## U u

**un • bear • a • ble** (un ber'ə bəl or un bar'ə bəl), not able to be suffered or endured: *The pain from a severe toothache is almost unbearable.* adjective.

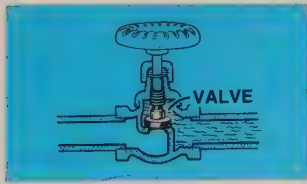
**un • kempt** (un kempt'), not properly cared for; neglected; untidy: *unkempt clothes.* adjective.

**un • think • ing** (un thing'king), 1 thoughtless; careless. 2 showing little or no thought: *blind, unthinking anger.* adjective.

**u • til • i • ty** (yū til'ə tē), a useful thing; something used for various purposes: *We have a utility room at the back of our house.* noun, plural **u • til • i • ties**.

## V v

**valve** (valv), 1 a movable part that controls the flow of a liquid or gas through a pipe by opening and closing the passage. A faucet contains a valve. 2 part of the body that works like a valve. The valves of the heart are thin, soft layers of tissue that control the flow of blood into and out of the heart. noun.



**veg • e • tar • i • an** (vej'ə ter'ē ən), 1 person who eats vegetables but no meat. 2 serving no meat: *a vegetarian restaurant.* 1 noun, 2 adjective.

**ven • ture** (ven'chər), 1 a risky or daring undertaking: *Our courage was equal to any venture.* 2 dare to come or go: *They ventured out on the thin ice and fell through.* 1 noun, 2 verb, **ven • tured**, **ven • tur • ing**.

**ves • sel** (ves'əl), 1 ship; large boat: *Ocean liners and other vessels are usually docked by tugboats.* 2 a structure built to travel on or under the water or through the air. Yachts and submarines are vessels. noun.

a hat	i it	oi oil	ch child	a = { a in about e in taken i in pencil o in lemon u in circus
ā age	ī ice	ou out	ng long	
ä far	o hot	u cup	sh she	
e let	ō open	ū put	th thin	
ē equal	ô order	ü rule	th then	
ér term			zh measure	

**vic • tim** (vik'təm), person badly treated or taken advantage of: *the victim of a swindler. Cinderella was the victim of her cruel stepmother.* noun.

**vi • rus** (vī'rəs), a living substance that can cause certain diseases. Viruses are so small that they cannot be seen through most microscopes. Viruses cause such diseases in human beings as rabies, polio, chicken pox, and the common cold. noun, plural **vi • rus • es**.

**vol • can • ic** (vol kan'ik), of or caused by a volcano; having to do with volcanoes: *a volcanic eruption.* adjective.

**vol • ca • no** (vol kā'nō), mountain having an opening through which steam, ashes, and lava are forced out. noun, plural **vol • ca • noes** or **vol • ca • nos**.

**voy • age** (voi'ij), 1 a journey by water: *We had a pleasant voyage to England.* 2 a journey through the air or through space. noun.

## W w

**weird** (wird), 1 unearthly or mysterious; wild; strange. 2 odd; fantastic; queer: *The shadows made weird figures on the wall.* adjective.

**whirl** (hwɜrl), turn or swing round and round; spin: *The leaves were whirling in the wind.* verb.

**white • wash** (hwīt'wosh' or hwīt'wōsh'), 1 liquid for whitening walls, woodwork, etc. Whitewash is usually made of lime and water. 2 whiten with whitewash. 1 noun, 2 verb.

**white • wash • er** (hwīt'wosh'ər or hwīt'wōsh'ər), person who paints with whitewash. noun.

**whole • some** (hōl'səm), good for the health; healthful: *Milk is a wholesome food.* adjective.

**whop • per** (hwop'ər), 1 something very large. 2 a big lie. noun.

## wily | zone

**wil • y** (wī'lē), tricky; cunning; crafty; sly: *a wily thief. The wily fox got away. adjective. wil • i • er, wil • i • est.*

**wit** (wit), the power to grasp quickly and state cleverly ideas that are unusual. **2 wits**, quick understanding: *People with quick wits learn easily. noun.*

**wit • ness** (wit'nīs), person who saw something happen; spectator; eyewitness: *There were several witnesses to the accident. noun, plural wit • ness • es.*

**wiz • ard** (wiz'ərd), **1** man supposed to have magic power; magician. **2** a very clever person; an expert: *She is a wizard at mathematics. noun.*

**wob • bly** (wob'lē), unsteady; shaky; wavering. *adjective, wob • bli • er, wob • bli • est.*

---

## Z z

---

**zip • per** (zip'ər), **1** a sliding fastener for clothing, shoes, or the like: *a zipper on a jacket. 2 fasten or close with a zipper: *Zipper your jacket before you go out. 1 noun, 2 verb.**

**zone** (zōn), **1** any of the five great divisions of the earth's surface: *the Torrid Zone. 2* any region or area, sometimes imaginary, set off from other regions or areas: *the twilight zone. noun.*

---

## Y y

---

**yo • gurt** (yō'gərt), kind of liquid food made from milk, thickened by the action of bacteria. Yogurt is often sweetened and flavored. *noun.*

Page 322: Adapted by permission of Four Winds Press, a division of Scholastic Inc., from *The Sick Book* by Marie Winn. Copyright © 1976 by Marie Winn.

Page 337: Taken from *Inventors for Medicine* by Edward F. Dolan, Jr. Copyright © 1969 by Edward F. Dolan, Jr. Used by permission of Crown Publishers, Inc. and Barthold Fles.

Page 367: Adapted from "A Night in the Old House" by Marjorie Vetter in *American Girl*. Copyright by Girl Scouts of the U.S.A. Reprinted by permission.

Page 377: "The Red-Headed League" by Arthur Conan Doyle, adapted by Kathy Andronik in *Read* magazine, February 4, 1981. Copyright © 1981 by Xerox Education Publications. Reprinted by permission.

Page 395: Adaptation of *The Strange Voyage of Neptune's Car* by Joe Lasker. Text copyright © 1977 by Joe Lasker. Reprinted by permission of Viking Penguin Inc.

Pages 406, 408: From *20,000 Leagues Under the Sea* by Jules Verne, adapted by Ardis Edwards Burton. Copyright © 1978 by Globe Book Company, Inc. Reprinted by permission.

Page 417: "Something's Fishy" adapted and reprinted by permission of Grosset & Dunlap, Inc. from *Quizzes, Tricks, Stunts, and Brain Teasers* from *Tell Me Why* by Arkady Leokum. Copyright © 1968, 1969, 1973 by Arkady Leokum.

Pages 420, 422: Adapted from "The Descent of Man" by Sylvia Earle in *Science* 87, September 1981. Copyright © 1981 by the American Association for the Advancement of Science. Reprinted by permission.

Page 426: From "Fred Grassle Dives to a Strange New World" by John Sedgwick in *International Wildlife*, November–December 1980. Copyright © 1980 by the National Wildlife Federation. Reprinted by permission.

Page 432: "Long Trip" from *Selected Poems*, by Langston Hughes. Copyright © 1926 by Alfred A. Knopf, Inc. and renewed 1954 by Langston Hughes. Reprinted by permission of the publisher.

Page 442: From "Wanting to Win" by Donald Honig in *Boys' Life*, May 1982. Copyright © 1982 by Donald Honig. Reprinted by permission of Donald Honig, and his agents Raines & Raines, New York.

Page 454: Adapted by permission of Random House, Inc. and Julian Bach Literary Agency, Inc. from *The Complete Book of Running*, by James F. Fixx. Copyright © 1977 by James F. Fixx. Adapted by permission of Random House, Inc. and Julian Bach Literary Agency, Inc. from *Jim Fixx's Second Book of Running*. Copyright © 1980 by James F. Fixx.

Page 456: From "The Great American Junior Gymnasts" by Ken Fulton in *Boys' Life*, March 1983. Reprinted by permission.

Page 489: Adapted from *The Firebringer and Other Great Stories* by Louis Untermeyer. Copyright © 1968 by Louis Untermeyer. Reprinted by permission of the publisher, M. Evans and Company, Inc., New York, NY 10017.

Page 496: From *Animal Migration* by Otto Von Frisch. Copyright © 1969 by International Library and Verlag J. F. Schreiber. Reprinted by permission of Verlag J. F. Schreiber.

Page 502: The following adaptation is reprinted courtesy of *Sports Illustrated* from the March 25, 1983 issue. Copyright © 1983 Time Inc. "Goin' South" by Bil Gilbert.

Page 511: Reprinted with permission of Macmillan Publishing Company from *Branches Green* by Rachel Field.

Copyright © 1934 by Macmillan Publishing Co., Inc., renewed 1962 by Arthur S. Pederson.

Page 513: From *The Rainbow-Colored Horse* by Pura Belpré. Copyright © 1978 by Pura Belpré. Reprinted by permission of Frederick Warne & Co., Inc.

Pages 136, 172, 173, 322, 323, 439: Adapted from *Scott Foresman Intermediate Dictionary* by E. L. Thorndike and Clarence L. Barnhart. Copyright © 1983 by Scott, Foresman and Company, and from *Scott, Foresman Advanced Dictionary* by E. L. Thorndike and Clarence L. Barnhart. Copyright © 1983 by Scott, Foresman and Company.

## Photographs

American Foundation for the Blind: Page 34; University of Manitoba Archives: Pages 52, 54; Tom Ives (top and middle); Bohdan Hrynowych/Southern Light (bottom): Page 72; Don and Pat Valenti/TOM STACK & ASSOCIATES (left); © Marjorie Pickens (right): Page 73; Jack Demuth: Pages 77–79; John Nance: Pages 90, 92–96; NASA: Page 139; National-Film Archive. Courtesy Mme. Malthete-Melies, Paris: Page 143; Museum of Modern Art/Film Stills Archive: Page 143; Don Dixon: Pages 152–153, 168–169; Hale Observatories, California Institute of Technology: Pages 170–171; C. Allan Morgan: Page 174; Sue & Jon Hacking/Earth Images: Pages 196–197; Jack Heffernan. Courtesy Betty Russell: Pages 200–201; Michael Ederegger/Peter Arnold, Inc.: Pages 202–203; John S. Flannery/BRUCE COLEMAN INC.: Page 208; Gianfranco Gorgoni/CONTACT Press Images: Page 223; Martha Swope: Page 234; Jaime Montemayor: Pages 236–237; © 1952, renewed 1980, Grandma Moses Properties Co., New York: Page 240; Grandma Moses painting, 1952. Photograph by Ifor Thomas. Copyright © 1975, Grandma Moses Properties Co., New York. Page 240; Grandma Moses: LITTLE BOY BLUE. Copyright © 1982, Grandma Moses Properties Co., New York.: Pages 240–241; Ken Sexton/Hillstrom Stock Photo: Page 247; Jan Gumprecht/TOM STACK & ASSOCIATES: Page 248 (left); Susan Hargrave/Lightwave: Page 248 (right); Reprinted from SEVENTEEN® magazine. Copyright © 1980 by Triangle Communications Inc. All rights reserved: Page 252; NASA: Page 279; U.S. Dept. of the Interior, National Park Service, Edison National Historic Site: Pages 286, 288–289; M. Timothy O'Keefe/Southern Stock Photos: Pages 350–351; Lee Boltin: Pages 359 (left), 359 (right), 360; Charles Nicklin/Ocean Images, Inc.: Page 422; Graham Hawkes: Page 422; Arthur A. Holeman/Hellman Design Associates: Page 423; Dudley Foster/Woods Hole Oceanographic Institution: Page 427; Al Giddings/Ocean Images, Inc.: Page 429; Dr. Robert Hessler/Woods Hole Oceanographic Institution: Page 430; Alastair Black/FPG: Page 432; Pierre Kopp/West Light: Page 454; Brian Payne: Page 456, 458; Focus on Sports: Page 460, 463 and 464 (right) © Bettye Lane: Pages 462 and 464 (left)

## Glossary:

Avalanche—U.S. Forest Service; Alligator—Lynn M. Stone; Clipper Ship—Library of Congress; Disaster—



flood—Thomas W. Putney/Putney Photo Library; Expedition—Photographer, Jonathan Wright © National Geographic Society from their film "Journey to the Outer Limits,"; Festive—Wedding feast—UNICEF Collection; Iceberg—U.S. Coast Guard Official Photo; Immense—C. Bonington/Woodfin Camp & Associates; Magnificent—Indian in ceremonial dress—Carlton C. McAvey; Procession—Courtesy of the Oriental Institute, University of Chicago; Recreation—UNICEF Collection

## Artists

Bill & Judi Anderson, 116; Kim Behm, 104, 107, 109, 110; Leon Bishop, 88, 91, 173, 326–329; Cathi Bleck, 296–297, 298, 301; Jan Brett, 122, 125, 513, 514, 515, 517, 519, 520, 522; Ted Carr, 20, 22–23, 24, 28; Michael Carroll, 142–143, 246, 247, 248, 249, 420, 421; Mark Chickinelli, 339, 340, 343, 344; Dan Cosgrove, 223; Ralph Cowen, 306–307, 318–319, 328; John Craig, 48, 495, 389; Ralph Creaseman, 118–119; David Lee Csicsko, 50–51, 481, 352–353; Jim Cummins, 377–378, 381–384, 390; David Cunningham, 184–185, 210; Susan Davis, 482–483; Jane Degraff, 498, 499; Lulu Delacre, 362; Holly Dickens, 498–499; Andrea Eberback, 228–229, 230–231; Larry Frederick, 367, 369, 371, 372, 373; Freya Tanz, 80–82; Chris Garland, 354, 356, 358; Jackie Geyer, 86–87, 118–119; Michael Glasscott, 404–405; Michael Goss, 151, 280, 281; Scott Gustafson, 308; Dennis Hockerman, 496–497; Myrna Hogan, 442, 444–445, 446–447, 448, 450; Doug Jamieson, 406, 424–425; Pamela Ford Johnson, 58–59; Carl Kock, 182; Paul Lackner, 181; Carol LaCourse, 334, 335, 376; Tom Leonard, 154, 155, 418–419; David Lesh, 292–293; Karen Lidbeck, 511; Warren Linn, 74, 114; Diane Magnuson, 294; Julie Marable, 102; Charles McBarron, 395, 397, 398–399, 400–401, 402; Mark McMahon, 212–213, 215, 217, 219; Steve Miller, 266; Kurt Mitchell, 18, 19; Yoshi Miyake, 18–19, 440, 486, 487, 488; Paul Moch, 157, 158, 159, 161, 162–163, 164; Nancy Munger, 98, 128–129, 130–131, 132–133, 134; Steve Musgrave, 99, 232, 234, 265, 273, 305, 320, 472–473, 474–475, 476–477, 478, 512; Anita Nelson, 489, 490, 493; Mitch O'Connell, 100–101, 140–141, 145, 147, 149; Stephen Osborn, 32, 270–272; Beverly Pardee, 62, 65, 68–69; Rodney Pate, 310, 312, 315, 316; William Peterson, 207, 296–297, 298, 301; Marc Phelan, 60, 408–415; Phil Renaud, 188, 191, 192–193; Marc Ross, 349; Roger Roth, 242, 244; Linda Rothberg, 438; Jenny Rutherford, 228–229, 230–231; John Sanford, 270, 271, 272, 362–363; Miriam Schottland, 253, 256–257, 258, 260; Jerry Scott, 112–113, 417; Slug Signorino, 392; Ray Smith, 99, 452–453; Mark Stearney, 408–415; George Suyeoka, 176–177, 433; James Teason, 481; Rick Thrun, 56, 99, 304, 348; Pat Traub, 73; R. Valicenti Design, 71, 179, 200–203, 204–205, 227, 236, 237, 252, 273, 274, 275, 276, 286, 287, 306, 307, 318, 319, 347, 349, 395, 435, 466, 468–469, 470–471; James Wattling, 85; Jim Whitman, 16, 17, 34, 35, 37, 38, 39, 43, 46, 205, 417; Don Wilson, 180; Charles Wimmer, 502, 503, 504, 506–507, 508–509; Leslie Wolf, 41; Greg Wray, 278–279

## Cover Artist

Mark Daniel

## Freelance Photographs

William Burlington, 15, 16, 38–39, 46–47, 77–79, 222, 251, 364, 366, 468–469, 473, 474, 475, 476, 477, 478; Pieter Folkens, 501; Avis Mandel, 238, 436; Bill McQuire, 332–333, 394, 480, 484; Ryan Roessler, 495; Rob Weaver, 34









# ◆ FOCUS ◆

Reading for Success

Level 11



0673210146

10/24/2018 11:57-1